

DECEMBER 18, 1961

PURCHASING

THE METHODS AND NEWS MAGAZINE FOR INDUSTRIAL BUYERS

Supplier Service Is Getting Worse

P. 69

The How-To of Purchasing Automation

P. 70

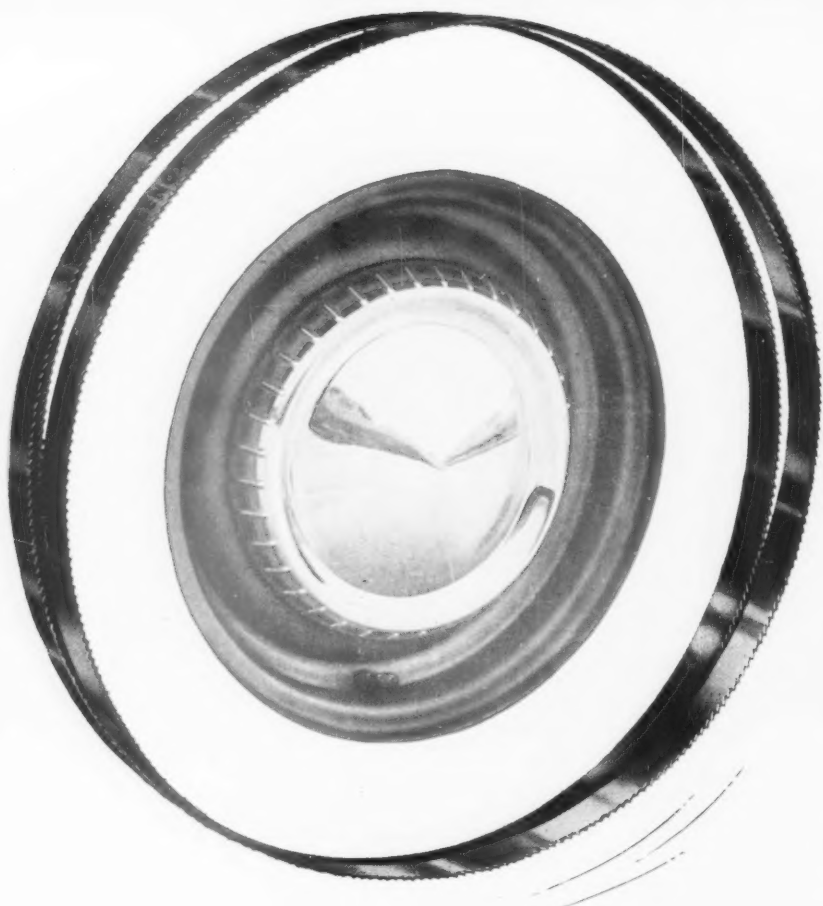
You Can Write a Better Report

P. 78

When a P.A. Moves Into Management

P. 80





how much band saw mileage do you get?

"Not enough!" This is the most frequent answer. **Why?** Our recent field survey shows wrong blade type or wrong specifications are used in over 50% of band saw cutting. What's the solution? Choose one of **THREE** proven band saw blades LENOX has developed to cut rapidly, efficiently, and at lower costs. These LENOX blades, cover the complete range of today's cutting needs.

HIGH SPEED STEEL—Used on automatic cut-off equipment in full production work. This band will rapidly cut most of the tougher steels.

MASTER-BAND—A special alloy steel band for standard

equipment, used in cutting at semi-production or production rates. Also used on some automatic cut-off applications.

DIEMASTER—Regular metal cutting, cut-to-length bands or coil stock. Used for general purpose cutting or where only 1 to 2 bands per week are used.

Interested in increasing your band saw mileage? Start by getting a true appraisal of your cutting operations. Write: **American Saw, Cutting Analysis Department**. Submit a brief description of your machine, materials being cut, and type of operation. Recommendations and sales engineering help are furnished without obligation.

THE TOOLS IN THE PLAID BOX

LENOX

**AMERICAN SAW
& MFG. COMPANY**
SPRINGFIELD 1, MASSACHUSETTS



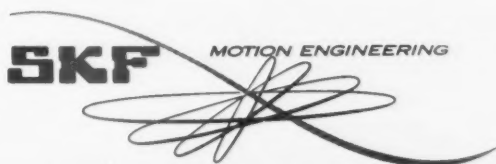
For More Facts Write No. 151 on Information Card—Last Page



**You can tell
the **SKF** man
by his complete line of bearings !**

He's the only bearings specialist offering all four major types of ball and roller bearings—thousands of sizes and endless variations! So, he's also the only specialist who can offer *unbiased* help in selecting the exact bearings you need. And remember, when buying bearings for replacement purposes — call on your nearby *Authorized SKF Distributor*.

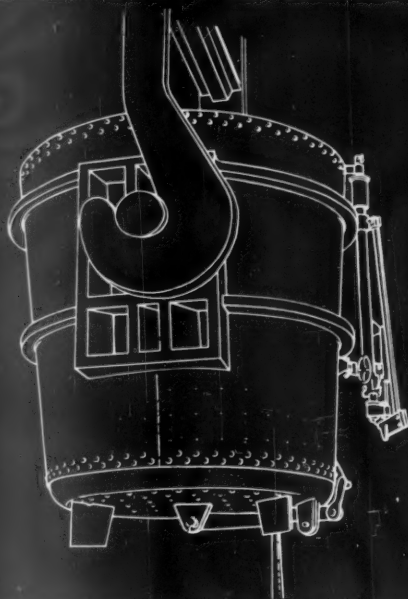
6002



Advanced ball and roller bearing technology

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How do you begin to evaluate quality in steel tubing?



How do you begin to evaluate quality in steel tubing? The place to start is with the steel.

Before the tube you use actually begins to take shape, the physical and mechanical properties which determine tube quality have been built into the steel.

Certainly, there are quality factors of the tube such as dimensional uniformity, surface finish and heat treatment. But they can only

be as good as the quality of the steel permits.

The point: the best alloy tube for your application is one that has been produced to your specifications from melt to finished tube. And, your best source is a manufacturer with integrated steel and tube making facilities. We invite you to investigate ours.

The Babcock & Wilcox Company, Tubular Products Division, Beaver Falls, Pennsylvania,



B&W

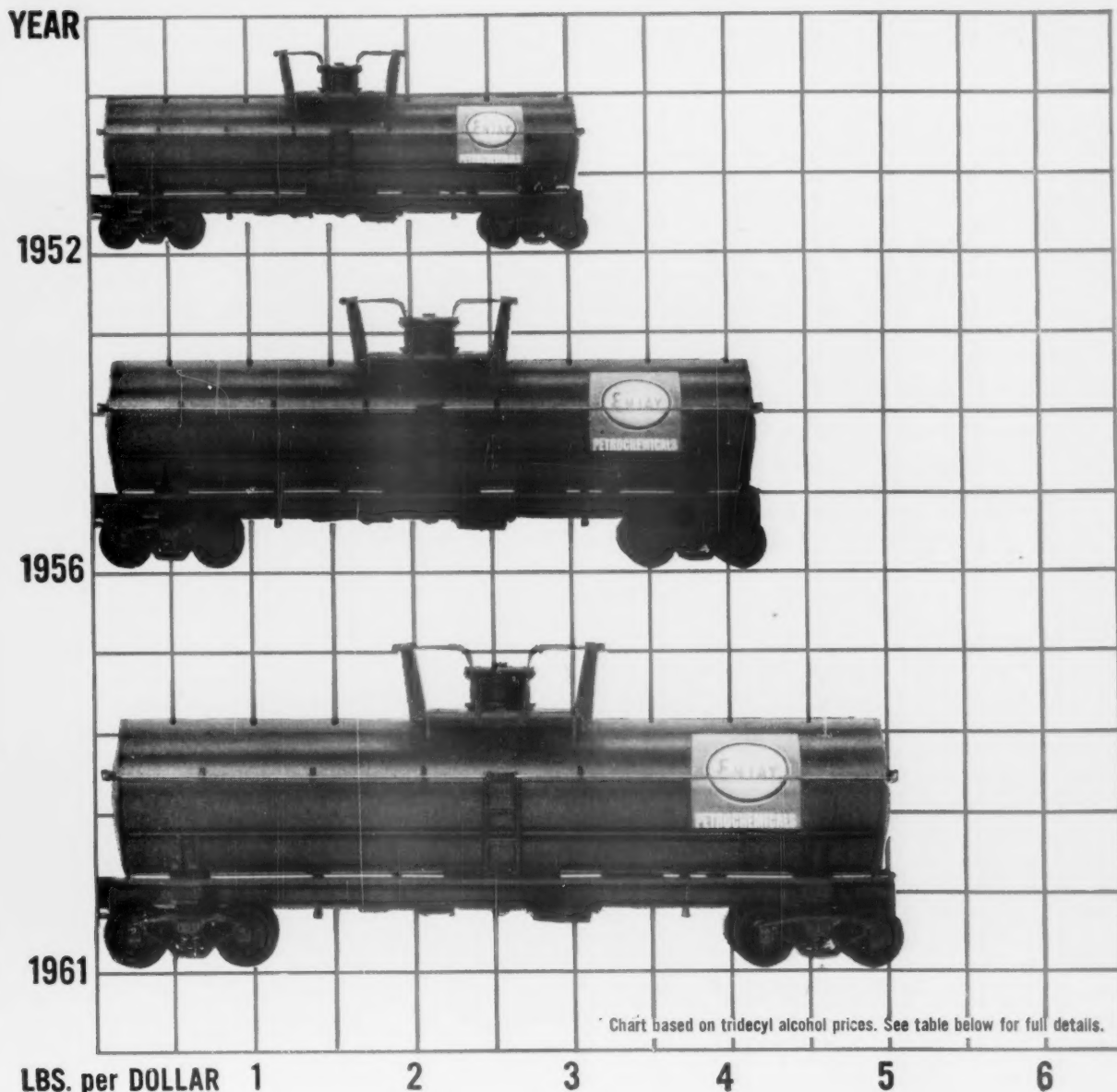
THE BABCOCK & WILCOX COMPANY

TUBULAR PRODUCTS DIVISION

TA-1002-G

Seamless and welded tubular products, solid extrusions, rolled rings, seamless welding fittings and forged steel flanges—in carbon, alloy and stainless steels and special metals

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LOWER PRICES MEAN YOUR DOLLAR BUYS UP TO 60% MORE ALCOHOL THAN IN 1952!

Expanded facilities, increased sales and production economies have enabled Enjay to pass substantial savings along to its oxo alcohol customers over the years. The table at right shows you how much more isooctyl, decyl, or tridecyl alcohol your dollar buys today as compared to 1952.

At the same time, the quality of Enjay alcohols is constantly being improved. Enjay also stands ready

with technical assistance on any problems you may have. These are two added advantages of dealing with a leader in the chemical field.

For more information on the full line of Enjay alcohols and chemicals, write to Enjay, 15 West 51st Street, New York 19, N. Y.

YOUR ALCOHOL DOLLAR BUYS:			
	1952	1956	1961
ISOCTYL (lbs.)	3.8	4.8	5.6
DECYL (lbs.)	3.6	4.8	5.6
TRIDECYL (lbs.)	3.1	4.2	5.0

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

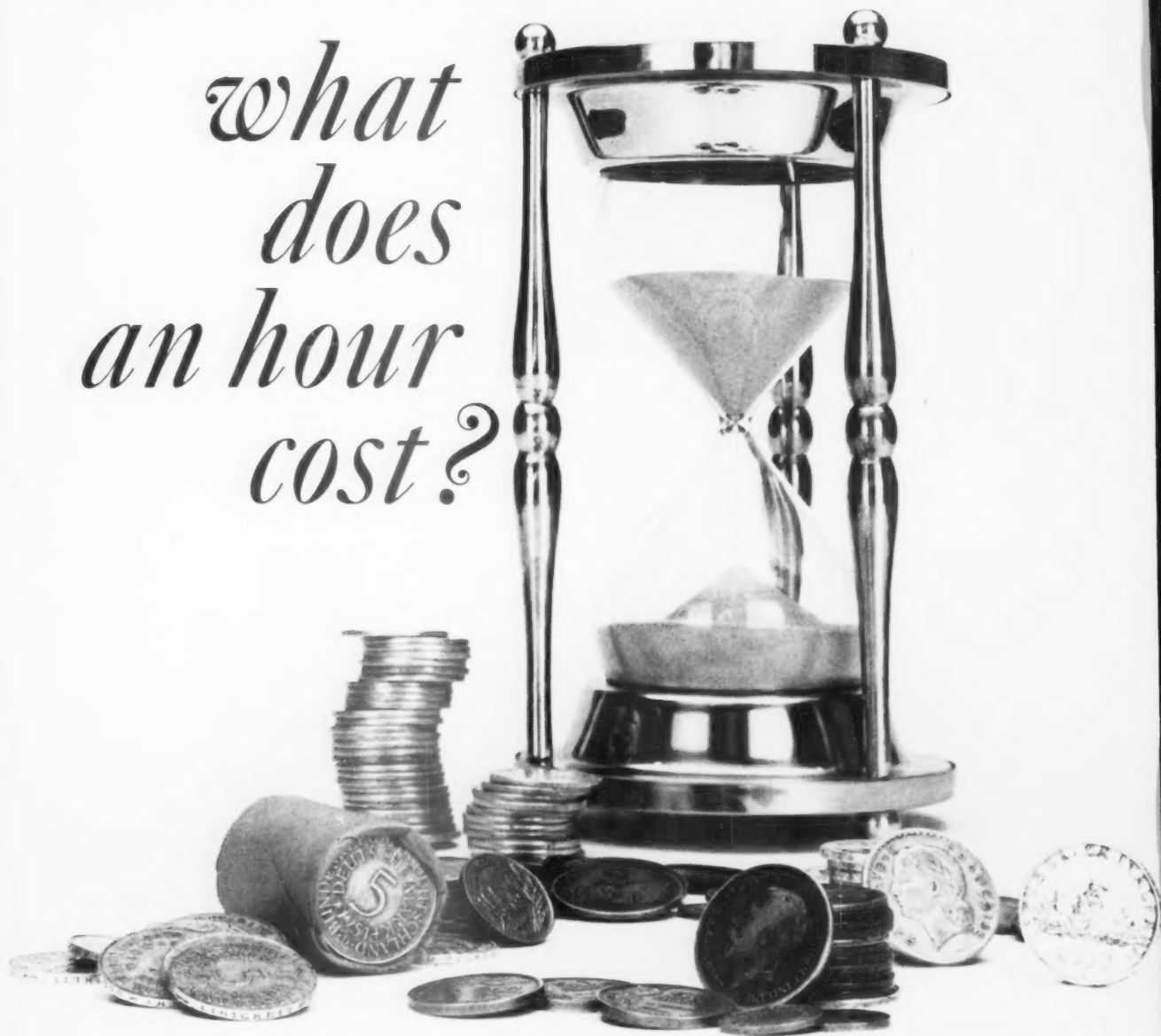
ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY



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*what
does
an hour
cost?*



Plenty . . . in any currency. That's why purchasing agents are using Emery Air Freight to maintain "hot list" parts and materials in adequate supply while keeping inventories at a cost-saving minimum. Emery gives same day or overnight delivery *anywhere* in the nation. Emery now enables you to go far and wide for new suppliers, to shop for the best at minimum cost. Plan now to take advantage of the speed and reliability of Emery by specifying "Ship Emery Air" on shipments from your vendors. To find out how much faster Emery can deliver your purchase order from anywhere in the country, call your local Emery man, or write . . .



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PURCHASING

THE METHODS AND NEWS MAGAZINE FOR INDUSTRIAL BUYERS

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The How-To of Purchasing Automation 70

Step-by-step description of the way the City of Baltimore automated its purchasing operation, how the new system works, what it's done to improve the City's buying.

Flying P.A. Gets More Value in Less Time 75

P.A. Rollie World's hobby is flying, and he puts this avocation to use in visiting vendors. Speed, efficiency mark the other phases of his purchasing operation.

How to Write a Better Report 78

There's no doubt that this is the era of the report. And as business becomes increasingly complex, management will be demanding even more of them. Here are some specific tips on how to organize your reports, and how to make them more effective.

How a P.A. Becomes Plant Manager 80

More evidence that purchasing is the ideal environment to prepare a man for a top-management post.

Forms Forum 80

Sample purchasing forms used by Engineered Plastics. The company's novel p.o. is of special interest.

Rating System Improves Vendor Performance 84

J. M. Huber's simple but comprehensive form does a thorough job of objective vendor evaluation. The company uses vendor rating to help suppliers rather than as a means of putting them on the hot seat.

Important Decisions in Purchasing Law 87

Court decisions of interest to purchasing executives.

Business News Analysis

Pulse of Business	7	The Trend of Prices	17
Straws in the Trade Wind	13	Washington Report	23
Sales, Inventories, Orders	15	International Report	27
Purchasing Follow Up	32		

Regular Features

Information for Your Catalog Files ..	40	Products and Ideas	92
Letters to the Editor	46	Office Equipment and Supplies	106
Purchasing People	52	Association News	112
F.O.B.	58	Program Aids	128
Calendar of Coming Events	63	Industry Developments	132
A Letter From the Publisher	65	Employment Service	146
Purchasing Pointers	67	Index to Advertisers	148
Editorial: Supplier Service Is Getting Worse	69		

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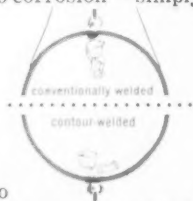
"The Gravity Kid" shows how

CONTOUR-WELDED STAINLESS TUBING DEFIES CORROSIVE ATTACKS

It's smoother inside than any other tubing—welded or seamless—because the patented* Contour-welding process virtually eliminates the weld bead. And this smoother surface ensures greater resistance to corrosion—simply because there are fewer focal points for corrosive attack.

You see, in conventionally welded tubing, gravity pulls the molten metal down into the tubing. This forms a bead that is difficult to remove by cold working. And cold working can lead to undercuts that become focal areas for corrosive attack.

Contour-welded tubing, however, is welded at the bot-



tom. Gravity still pulls the molten metal down. But now the weld area corresponds to the contour of the tube. There's virtually no weld bulge on the inside surface. And even on the O.D., the weld seam closely conforms to the tubing contour.

Contour-welded tubing is smoother, too, than seamless. That's because it's formed from uniformly rolled strip steel whereas seamless is extruded from a billet.

But get full details on this corrosion-resistant tubing. Send for our free 48-page manual on Contour-welded tubing in sizes from 1/8" to 40" O.D.—in stainless and high alloy steels, titanium, zirconium, zircalloy and Hastelloy.**

**Trademark Haynes Stellite Co.

TRENTWELD® Stainless and High Alloy Tubing

Trent Tube Company, a Subsidiary of Crucible Steel Company of America. General Offices and Mills: East Troy, Wisc.; Fullerton, Calif.
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Pulse of Business

Barometers Point To Boom in '62

The economy is getting a running start for 1962 by chalking up new production records in the final quarter of this year. Automobile sales in the final quarter will set new records for the October-December period. This means a substantial drop in car inventories which, at the end of October, stood at the comparatively low figure of 660,000 units. **Auto output in the final quarter will be substantial**, but the current rate of sales suggests only a moderate increase in car stocks at this time.

Automobile manufacturers are quite optimistic about 1962 sales. For example, George Romney, president of American Motors, predicts record sales for his company in the fiscal year ending October 1, 1962. He notes that Rambler sales in the first six months of the fiscal year will be a whopping \$680 million.

Steel Orders Will Rise This Month

Steel orders were up in November and are **expected to show further improvement in December**. Even though orders were up last month, output was about 5% below October. However, it looks like December production will more than offset this loss.

At the end of November, the steel industry was utilizing 71% of its current capacity. If buyers decide to expand inventories to one month's usage, steel output will probably rise to 80% of capacity in the first half of 1962. If they boost inventories to the equivalent of two months' consumption, steel capacity utilization will rise to 90% by mid-year.

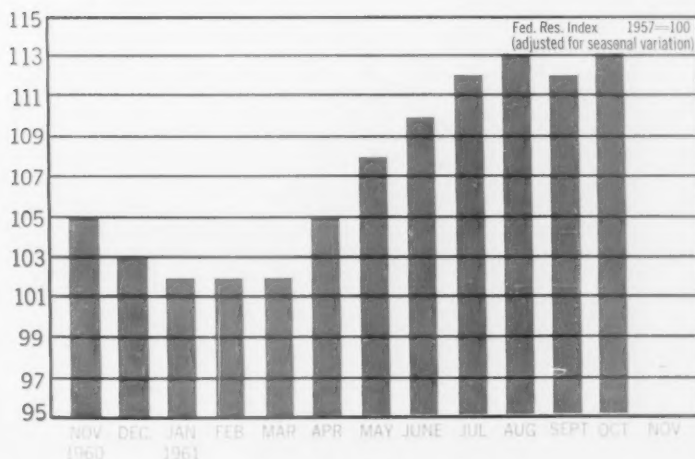
Right now, Ford, General Motors and Chrysler are apparently seeking to build steel inventories to a minimum of three months' supply. Appliance manufacturers indicate that they want to build up at least a two months' supply.

For next year, it looks like the proportion of the consumer dollar spent for durables may not make any spectacular gains and the part spent for nondurables may even show a loss during the year. But expenditures for services will continue to take a larger share of the dollar, following the pattern of the last twelve years or so.

This was emphasized in a recent study by the Department of Commerce which reveals that in the last seven years, the portion

Industrial Production Up a Point

The Federal Reserve Board's Industrial Production Index rose a point in October to 113 (1957=100). Durable goods manufacturing advanced two points, while nondurables increased one point.

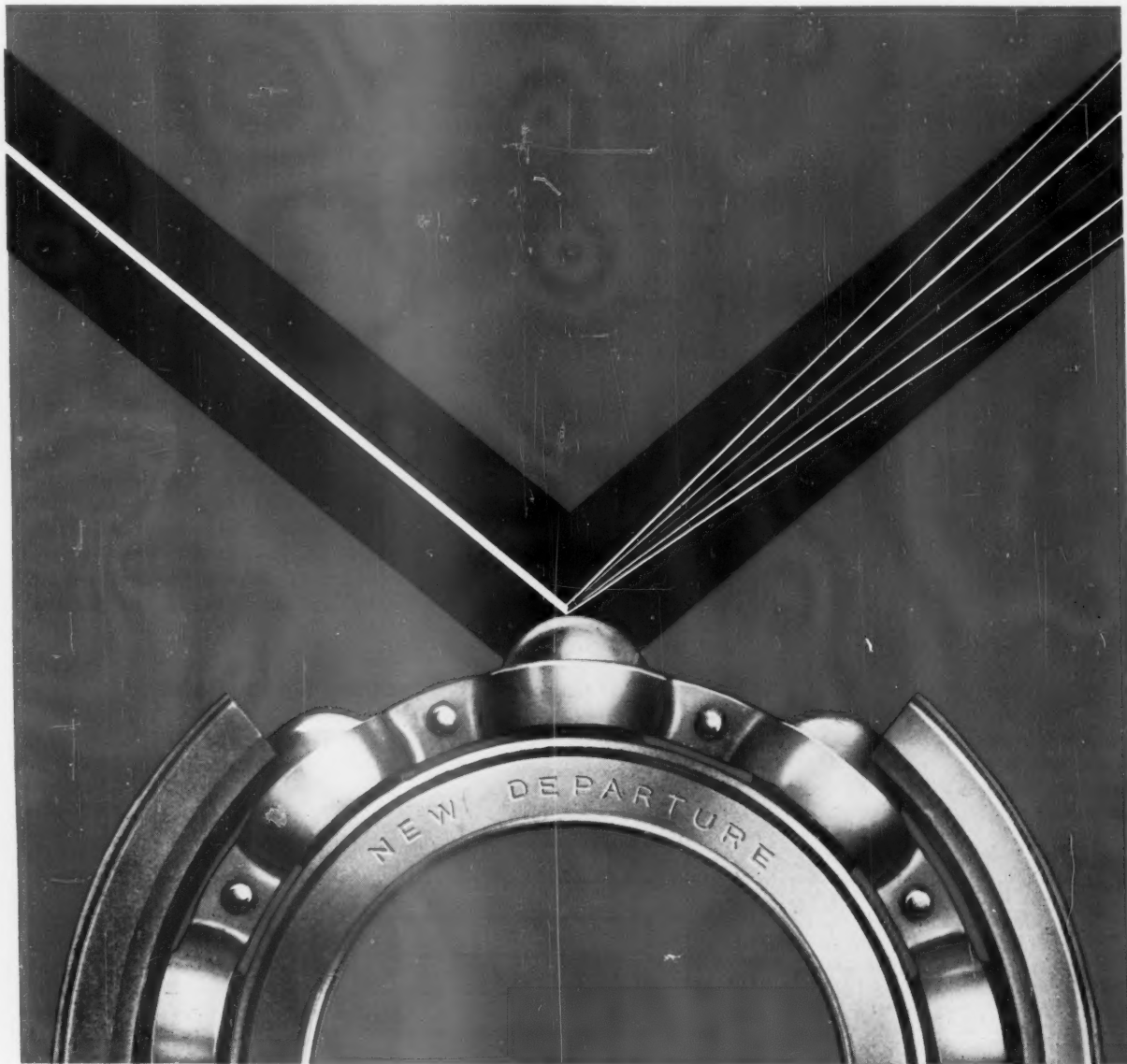


NONDESTRUCTIVE INSPECTION DEVICES SEEK OUT MINUTE FLAWS —help New Departure make better bearings!

One such device is the *N/D Ball Scanner*. As eagle-eyed instruments, they subject balls coming down the lines to the closest scrutiny. With unfailing consistency, they automatically reject balls having the minutest traces of rust, pits, grind marks, blemishes, and other faults, normally undetected by visual inspection. Result—balls made by New Departure are more defect-free than ever before. Bearings assembled with these balls and used in your products deliver better performance with greater reliability.

Development of nondestructive inspection devices has long been one of New Departure's principal R & D efforts. The Ball Scanner is just one of the existing devices that are already bringing you higher quality and more reliable bearings. Others are still under "wraps," but are destined to bring you even better bearings in the near future.

The advantages of these ball bearings are available to you now. Contact the New Departure Sales Engineer in your area. New Departure, Division of General Motors Corporation, Bristol, Connecticut.



NEW DEPARTURE
BALL BEARINGS • PROVED RELIABILITY YOU CAN BUILD AROUND

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Pulse of Business

of the consumer dollar spent for food has dropped nearly 4 cents. Nevertheless, food still takes 21 cents of each consumer dollar, by far the largest share.

Compared with 1953, the consumer today is spending 5 cents less of each dollar on non-durables and 2 cents less on durables. This is counter-balanced by a 7 cent increase in expenditures for all types of services.

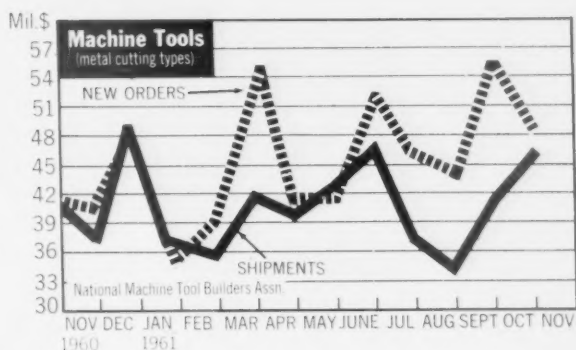
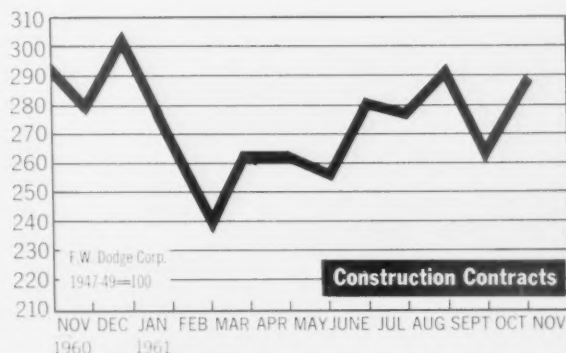
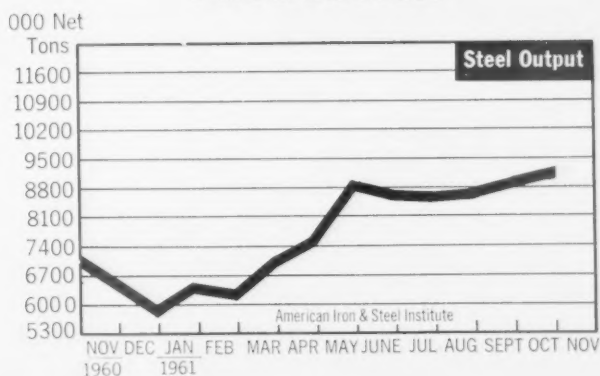
The Commerce Department study reveals, among other things, that a big part of the increased spending for services stems from the growth of user-operated transportation, especially automobiles. As every car-owner knows, autos are not cheap to operate and repair. Therefore, it seems that the growing popularity of the compact car results more from consumers' efforts to cut expenditures for upkeep—such as fuel, repairs, insurance, and taxes—than from the desire to save on the initial purchase.

How many compacts will be sold is one of the major economic questions for 1962. J. C. Wright, chairman of Thompson Ramo Wooldridge, Inc.—a major supplier of automotive parts as well as aviation and electronic equipment—forecasts that the percentage of domestic compact cars produced in 1962 will drop to 35% of an estimated 6,500,000 passenger autos. This year, compacts comprised 37% of total production.

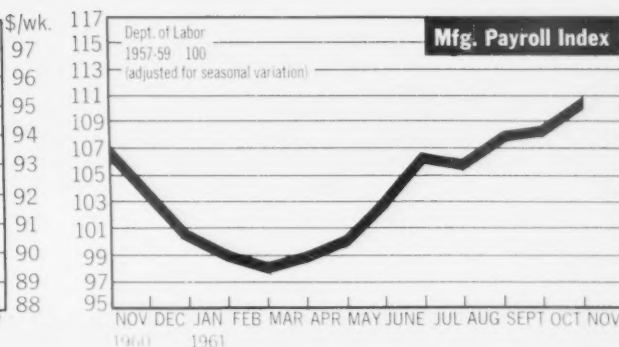
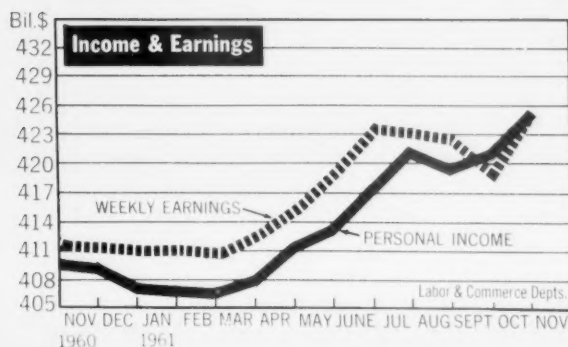
George Romney has other ideas about compacts. He predicts that compact cars will account for 50% of all domestic sales next year. However, he includes Ford's new Fairlane and General Motor's new Chevy II as compact cars, despite the attempts of the producers to project the concept of an intermediate size.

Another controversial question for 1962—this one to be settled in Congress—is the de-

PRODUCTION



LABOR

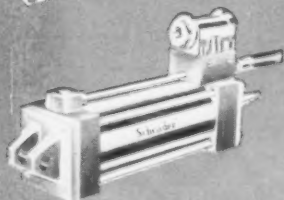


NEW!

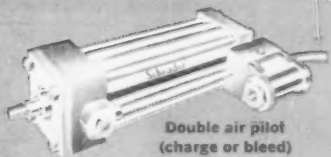
SCHRADER PRESENTS POW-AIR-PAC*



Single solenoid



Single air pilot
(charge)



Double air pilot
(charge or bleed)



Double solenoid

*...the first true heavy-duty
cylinder-valve combination
with selective flexibility
in packaged air control*

Here are the outstanding features that make Pow-Air-Pac, Schrader's unique new air automation unit, tops in versatility:

- Five methods of valve actuation—eight valve locations—seven cylinder mountings.
- The only product of its kind that can be used for high speed and heavy duty, with steady, continuous solenoid operation.
- Bronze seal slides on stainless steel plate for long, trouble-free operation. Is self-compensating for wear.

- Requires only a single air connection.

- As production requirements change, convert Pow-Air-Pac from solenoid to pilot, manual, double pilot, etc., operation by simply switching valve actuator heads.

- Suitable for low pressure hydraulic operation.

Think of Schrader's Pow-Air-Pac first—whenever you need packaged air control for repetitive operations. It is another outstanding product in the complete line of Schrader Air Control Components.

*patent applied for



FULL LINE OF QUALITY AIR CIRCUIT COMPONENTS • OFF-THE-SHELF SERVICE AND INFORMATION FROM YOUR NEARBY DISTRIBUTOR • STAFFED WITH AIR CIRCUIT EXPERTS • CONSULT YELLOW PAGES OR WRITE FOR HIS ADDRESS

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a division of **SCOVILL**

QUALITY AIR CONTROL PRODUCTS

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Division of Scovill Manufacturing Co., Inc.
473 Vanderbilt Avenue, Brooklyn 38, N. Y.

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Pulse of Business

TRADE

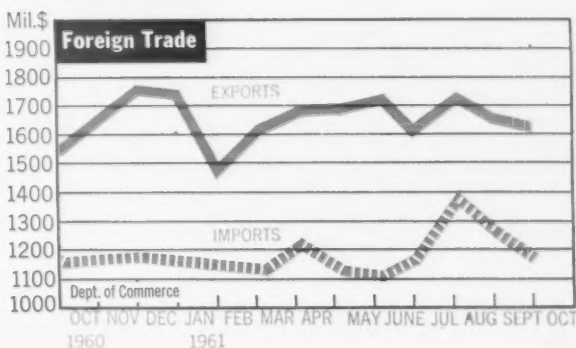
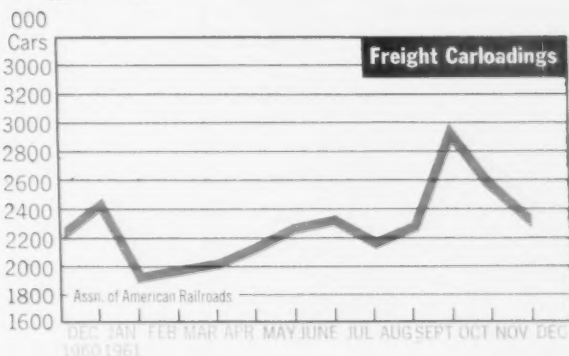
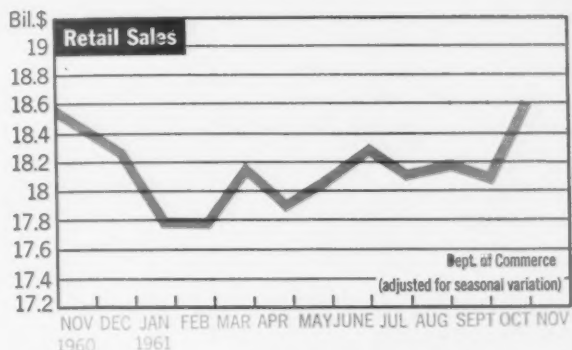
gree of success the Administration will have to give the President power to reduce tariffs across-the-board.

The President contends that he needs this power to negotiate reciprocal trade agreements with Common Market countries. These nations account for more than a quarter of all United States exports, representing about \$5 billion.

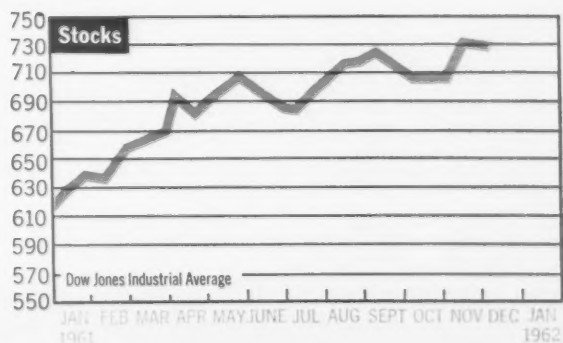
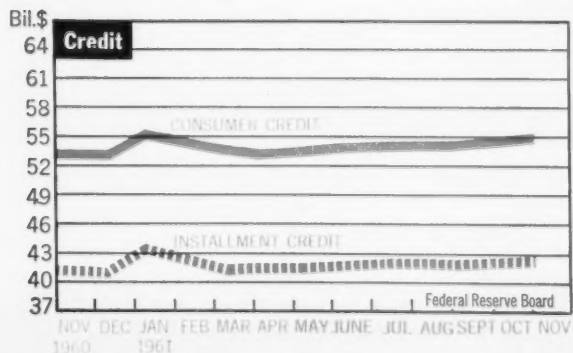
President Kennedy, however, is concerned about American industries that might be hurt badly by further tariff reductions. In fact, he made one proposal which would provide the textile industry with greater protection than it now has. He has asked the Tariff Commission to explore the possibility of placing an 8½ cents-per-pound equalization tax on imported cotton goods to offset a similar reduction in the price of cotton which foreign purchasers of the American fiber now enjoy.

The President justified his recommendation with the argument that the need to sell cotton to foreign buyers at the lower cost was obvious. What he means is that if the United States is unable to sell cotton at the world price, cotton will pile up in government warehouses and thus would become a burden on the taxpayer. His admission that an industry as important as textiles needs additional protection may bring a flood of requests for similar treatment from other industries. This is particularly true since textiles already enjoy more protection than some durable goods industries such as automobiles.

On the other hand, foreign producers can be expected to protest sharply against our imposing any tax that might reduce their sales to this country. For instance, the Japanese have already indicated that they are strongly opposed to the "equalization" tax on cotton.

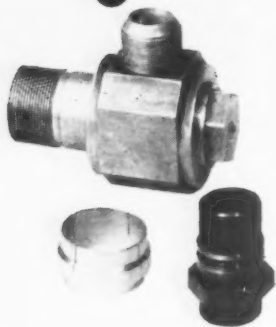


FINANCE



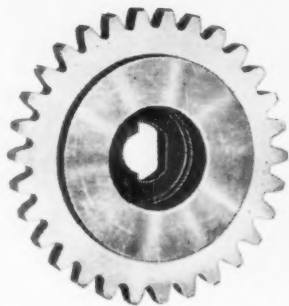
REPORTS ON RYCUT

world's fastest machining alloy steels in their carbon ranges



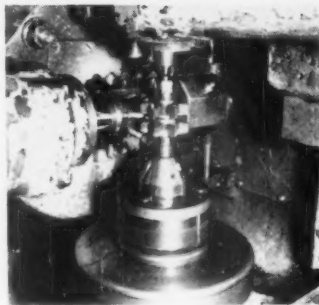
**CUTS PRODUCTION
COST 50%**
for Flodar Corp.

This manufacturer of high pressure hydraulic tube and pipe fittings reports production cost savings of 50% after switching from 4150 to Rycut* 50 and from 4140 to Rycut 40. In addition to higher production, Rycut machined to a better finish, held size perfectly and eliminated scrap loss. (With 4140 and 4150 scrap loss ran up to 30%.) And tool life, from 1 to 3 hours with the standard alloys, was boosted to 8 hours with Rycut.



**MACHINES 35%
FASTER**
for American Bosch

Rycut 40 was selected by American Bosch for this plunger drive gear for a diesel injection pump because it machines 35% faster than 4140—keeping machining costs at a minimum without sacrifice of mechanical properties. The company also found that Rycut 40 produced a better finish than 4140 and reduced down time by lengthening tool life.



**BOOSTS SPROCKET
PRODUCTION**
for McCulloch Corp.

These are the results obtained at McCulloch Corporation when they switched from non-leaded alloy to Rycut 20 for chain saw sprockets. Turning, forming, reaming and drilling operations: hourly production rate raised from 68 to 100 pieces—tool life lengthened from 3½ to 5 hours. Hobbing machine operations: hourly production raised from 43 to 65 pieces—tool life lengthened from 3916 parts per tool to 5874.

Rycut is available in a wide range of analyses: Rycut 20 is a case carburizing, oil hardening steel, with balanced composition. Rycut 40 annealed attains greatly varied strength and toughness, depending on heat treatment, making it suitable for an unusually wide range of applications. Rycut 50 annealed may be preferred (to Rycut 40) for parts with large mass or applications requiring higher mechanical properties. Rycut Heat Treated, stress relieved, assures uniform properties and machinability—carbon content is matched to bar size. Call Ryerson for any alloy requirement—and get top technical help, too.

RYERSON

JOSEPH T. RYERSON & SON, INC., MEMBER OF THE  STEEL FAMILY

METALLOGICS



STEEL · ALUMINUM · PLASTICS · METALWORKING MACHINERY

For More Facts Write No. 161 on Information Card—Last Page

Straws in the Trade Wind

► **FASTENER SHIPMENTS OFF**—October shipments of industrial fasteners—a key economic barometer—declined, says the Industrial Fasteners Institute. Its index fell two points from the level of the previous month and is now at 93 (1956-58=100).

► **REORGANIZING COMPANIES**—Expansion, mergers, and acquisitions have prompted many U. S. corporations to reorganize, says the National Industrial Conference Board. Among the new patterns NICB notes: a more concerted move to divisionalized organizations, a larger role for the corporate staff, the emergence of "group executives," and an elaboration of the chief executive's office.

► **STEEL STOCKS GROW**—Almost every manufacturer is carrying bigger inventories of steel than he was six months ago when stocks were at rock-bottom levels. Basic reason for the boost is better business, not protection against a possible steel strike next summer. So far, there has been little strike stockpiling. However, many P.A.'s, who now say they have no interest in boosting stocks except to take care of increased sales, may change their mind late next spring.

For the P.A.'s Hot File . . .

"Spotty weaknesses continue to plague business as it struggles to achieve the expected good fourth quarter," says the business survey committee of the N.A.P.A. "Upward pressures on prices persist," it says, and "buyers show great concern." P.A.'s apparently "intend to keep a tight inventory-usage ratio, at least until the end of the year." Only in the area of capital expenditures are longer lead times noted, it says.

► **FEWER FREIGHT CAR DELIVERIES**—Deliveries of new freight cars to the nation's railroads and private car lines fell in October, reports the Association of American Railroads and the American Railway Car Institute. Shipments totaled 1907 cars, compared with 2700 in the previous month and 4632 in the same month last year. New orders also declined during the month.

► **HOUSING STARTS RISE**—Housing starts in October advanced 4% over the previous month. The seasonally adjusted annual rate was 1,442,000 units, says the Census Bureau. Starts were higher in the Midwest, South, and West, but were lower in the Northeastern states.

► **GOLD HOLDINGS DECLINE**—U.S. foreign transactions resulted in an excess of payments over receipts of about \$800 million in the third quarter of 1961. The balance represents holdings of gold and convertible currencies by U.S. monetary authorities. Key factor was an exceptionally rapid increase in merchandise imports and a large decline in the inflow of foreign capital for investment purposes.

► **MORE BUSINESS INCORPORATIONS**—New business incorporations (seasonally adjusted) advanced in October for the sixth consecutive month. With 16,692 new charters, incorporations reached the highest level since May 1959. For the first ten months of the year, however, new incorporations—at 152,787—were 1.9% lower than in the same period of 1960.

► **MACHINE TOOL SALES UP**—Sales of used machine tools advanced sharply in October, according to the Machinery Dealers National Association. Its index rose 34.4 points to 134.7 (1957=100). This is the highest it has been all year.

► **RUBBER CONSUMPTION UP**—Domestic consumption of new rubber rose 14,968 tons in October to 145,568 tons. The ratio of synthetic consumption to total rubber usage was 72.35%, setting a new record. Use of reclaimed rubber also rose 1965 tons to 22,260 tons.

General Electric Makes Eddy-current-coupling Drives

And they're dependable drives. The complete line includes water-cooled and air-cooled eddy-current couplings. We call them ***KINATROL**** drives. Ratings are from 1 to 150 horsepower, operating from standard a-c power.

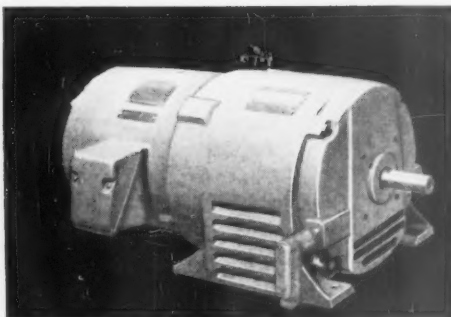
A General Electric ***KINATROL*** drive is not just another eddy-current coupling. For instance, in the water-cooled coupling, water control is packaged. You'll see much less external piping. Furthermore, the coupling is protected from flooding—and the air gaps are dry, preventing corrosion.

KINATROL couplings are compact, field proven and dependable. General Electric has had a good deal of experience in the engineering, manufacturing, and application of packaged adjustable-speed drives. And we know how important service is to a customer.

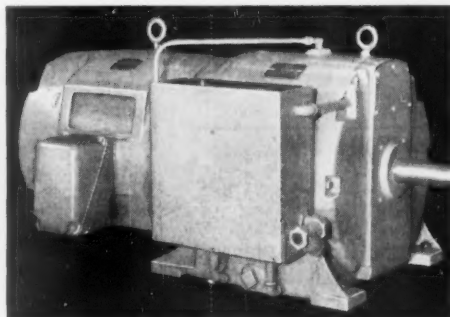
KINATROL —a good product, with the kind of service you can depend on. Please call your nearest General Electric Sales Office for further details.

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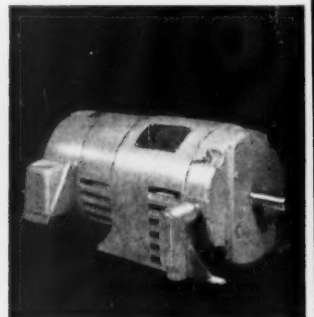
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For More Facts Write No. 162 on Information Card—Last Page

Pulse of Business

Sales, Inventories, Orders

● New Orders Set Record; Inventories, Sales Rise

MANUFACTURERS' new orders (seasonally adjusted) rose in October for the ninth straight month and set another all-time high, reports the Commerce Department. Inventories and sales also advanced.

New orders increased \$400 million to \$32.7 billion, led by durable goods. Substantial gains were reported by producers of non-electrical machinery, instruments, motor vehicles, and parts.

Inventories also climbed \$400 million to \$54.8 billion. Stock accumulation was "appreciable" in the steel and machinery industries.

Sales totaled \$31.8 billion—up \$400 million from the previous month. Automobile volume figured markedly in the advance, because of the end of the General Motors strike and a "favorable initial response" to the 1962 models.



Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)

	1960	1961				
	Oct	June	July	Aug.	Sept. (r)	Oct. (p)
All Manufacturing Industries.....	29,600	30,900	31,600	31,460	31,410	31,780
Durable-goods industries.....	14,080	14,690	14,790	15,050	14,980	15,340
Primary metal.....	1,790	2,070	2,200	2,200	2,210	2,150
Fabricated metal.....	1,530	1,720	1,700	1,740	1,700	1,740
Machinery.....	4,590	4,830	4,880	4,990	4,980	5,110
Transportation equipment.....	3,630	3,410	3,320	3,360	3,340	3,570
Lumber and furniture.....	780	840	870	870	820	820
Stone, clay, and glass.....	700	740	760	790	790	810
Non-durable goods industries.....	15,520	16,210	16,360	16,410	16,430	16,440
Food and beverage.....	4,700	4,700	4,780	4,750	4,820	4,820
Tobacco.....	390	410	430	430	420	430
Textile.....	1,150	1,270	1,240	1,230	1,270	1,220
Paper.....	1,040	1,180	1,170	1,180	1,180	1,200
Chemical.....	2,260	2,510	2,500	2,570	2,530	2,610
Petroleum and coal.....	3,230	3,220	3,290	3,220	3,210	3,220
Rubber.....	490	500	470	520	520	520

Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)

	1960	1961	1961	1961	1961	1961
	Oct	June	July	Aug.	Sept. (r)	Oct. (p)
All manufacturing industries.....	54,380	53,360	53,550	54,030	54,440	54,770
Durable-goods industries.....	31,430	30,200	30,370	30,800	31,100	31,340
Primary metal.....	4,570	4,600	4,660	4,630	4,670	4,740
Fabricated metal.....	3,180	2,920	2,950	3,020	3,120	3,130
Machinery.....	10,440	10,140	10,170	10,190	10,230	10,340
Transportation equipment.....	7,100	6,640	6,640	6,950	6,970	7,000
Lumber and furniture.....	1,960	1,800	1,800	1,810	1,850	1,860
Stone, clay, and glass.....	1,460	1,430	1,450	1,480	1,490	1,490
Non-durable goods industries.....	22,950	23,160	23,180	23,230	23,340	23,420
Food and beverage.....	5,010	5,050	5,090	5,120	5,150	5,110
Tobacco.....	2,030	1,960	1,960	2,000	2,050	2,060
Textile.....	2,640	2,750	2,750	2,740	2,740	2,800
Paper.....	1,650	1,670	1,660	1,680	1,700	1,700
Chemical.....	4,180	4,240	4,250	4,240	4,200	4,200
Petroleum and coal.....	3,280	3,370	3,380	3,380	3,420	3,400
Rubber.....	1,160	1,130	1,130	1,130	1,120	1,140

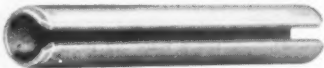
Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)

	1960	1961	1961	1961	1961	1961
	Oct	June	July	Aug.	Sept. (r)	Oct. (p)
All manufacturing industries.....	29,210	31,100	31,330	32,180	32,260	32,660
Durable-goods industries.....	13,740	14,920	15,030	15,650	15,760	16,120
Non-durable goods industries.....	15,470	16,190	16,300	16,540	16,500	16,540

(r) Revised.

(p) Preliminary.

**WHERE CAN YOU USE
THIS SIMPLE FASTENER?**
















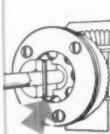




ROLLPIN is the slotted tubular spring pin with chamfered ends that is cutting production and maintenance costs in every class of industry. Drives easily into standard holes, compressing as driven. Spring action locks it in place—regardless of impact loading, stress reversals or severe vibration. ROLLPIN is readily removable and can be re-used in the same hole. Made in carbon steel, corrosion resistant steel and beryllium copper.

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Thousands of companies—from cigarette lighter makers to car manufacturers—have learned from experience that ROLLPINS not only cut production and assembly costs, but make good products even better! The 9 examples pictured below don't even begin to indicate the range of application and usefulness of this simple, universal fastener. And naturally, they don't begin to show the cost and production savings you can achieve with ROLLPINS. If you aren't using ROLLPINS now, shouldn't you be? Write for a generous sample assortment and complete information. Dept. R62-1215.

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	 REPLACING A RIVET SHAFT . . . Rollpin serves as an axle for the sparkwheel of a cigarette lighter. No riveting or threading necessary. Faster assembly.		 REPLACING A CLEVIS PIN . . . here Rollpin holds firmly in clevis, permits free action of moving member.		 REPLACING A HUB ON A GEAR . . . Rollpin, self-retained in shaft, is simply snapped into molded slot to position sintered gear. Rollpin's shear strength is particularly valuable here.
	 REPLACING A COTTER PIN . . . Rollpin: assembly time is shorter, service life ten times longer. Vibration-proof flush fit. Easily removable.		 REPLACING TAPER PINS . . . Rollpin eliminates cost of taper pin reamers and the entire reaming operation. Rollpin costs less than a taper pin and installation is cheaper.		 REPLACING A BOLT AND NUT . . . Rollpins act as fasteners and pivots . . . may also be used with a free fit in outer or inner members depending upon product design requirements.



ELASTIC STOP NUT CORPORATION OF AMERICA

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Pulse of Business

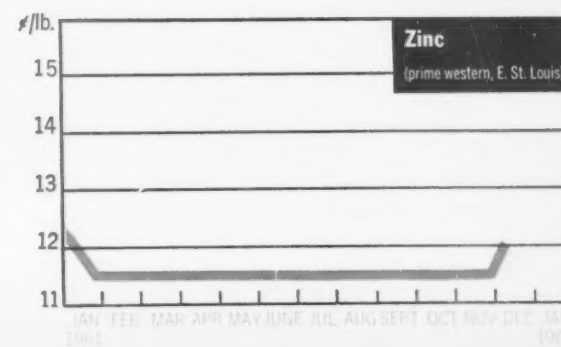
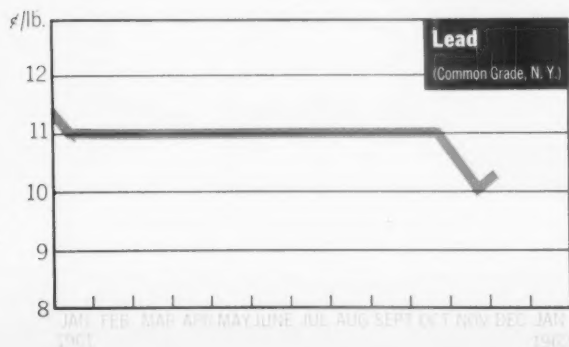
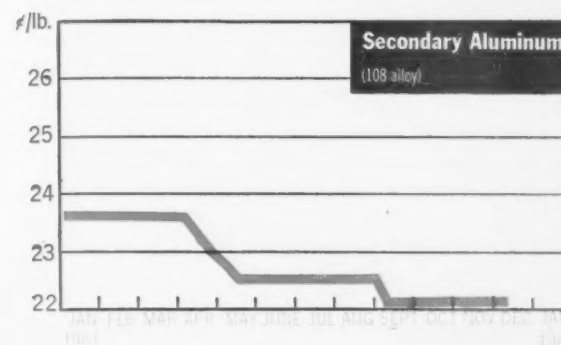
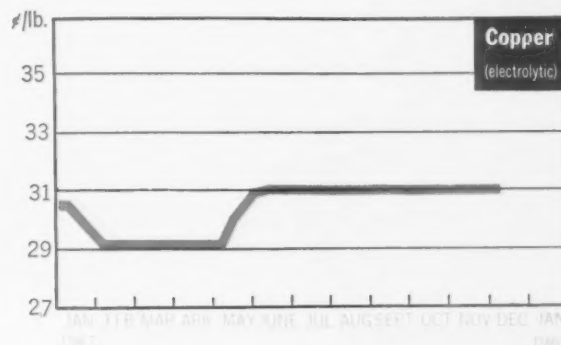
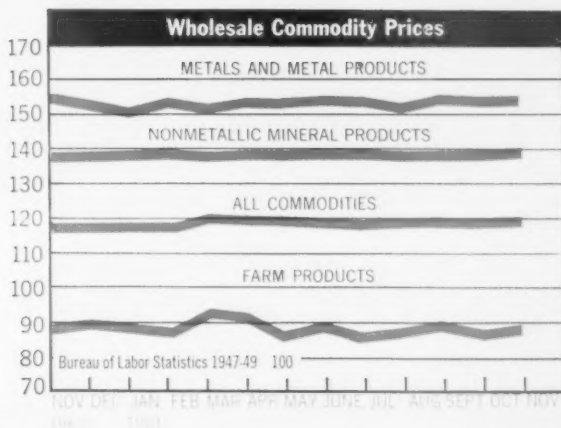
The Trend of Prices

- **Strong Demand Boosts Zinc Prices**
- **Expect Big Boost in Brass Shipments**

DON'T look for lower zinc prices—in the near future, at least. Producers are currently not meeting much resistance from buyers despite the recent price increase. Demand continues strong. November zinc shipments topped October, which, in turn, had set a record unmatched for the last two-and-one-half years. Domestic producers still don't have too much to be merry about this Christmas, however. They think the current improvement will be short-lived. The industry's long range problems—competition from foreign producers and sluggish growth in demand for zinc—remain unsolved.

Copper: Demand for copper has been surprisingly slack considering the sharp upturn in auto output. December business was off slightly from November. Brass mills, like other users of primary copper, have moved side-ways in recent months. Total shipments of brass mill products will be about 902,000 tons this year. The industry has high hopes for 1962: it estimates that shipments will total 950,000 tons.

Lead: Volume of lead sales has been good in recent weeks. Latest monthly figures issued by the American Bureau of Metal Statistics show that world shipments of lead were 152,225 tons—the highest in 28 months. And unsold producer inventories dropped 16,230 tons to the lowest level in a year—380,555 tons. It's a pretty safe bet that the current lead price, however, will hold for the rest of the year.





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CINCINNATI[®]
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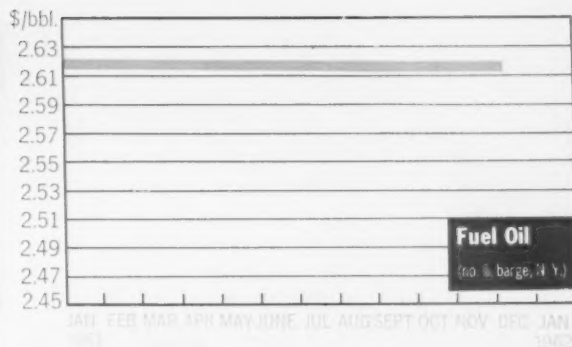
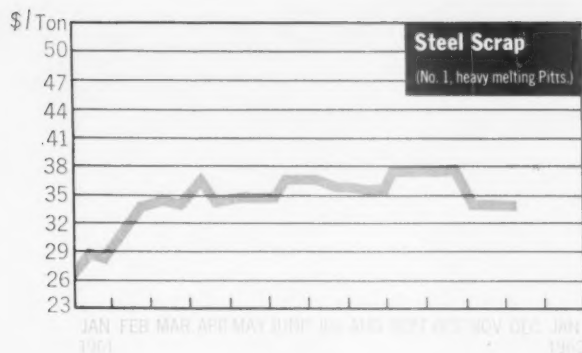
®Trade Mark Reg. U.S. Pat. Off.

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Pulse of Business

More on Price Trends



Tin: The tin market has softened recently. Prices in New York, London, and Singapore range from steady to weak. Russia is cutting back exports of tin to Free World countries. Trade sources indicate that Russian shipments to Western nations this year will total 5000 tons to 6000 tons, compared with more than 8000 tons last year. So far, this export cut has had little effect on tin prices because of the more than adequate Western inventories.

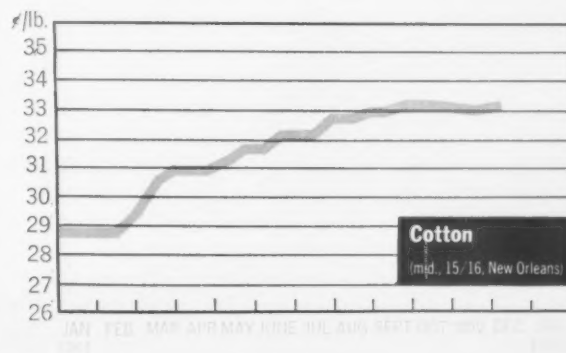
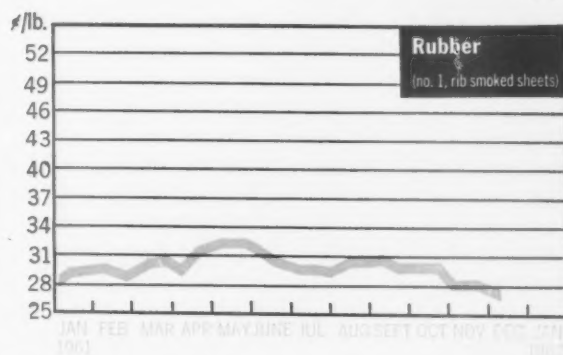
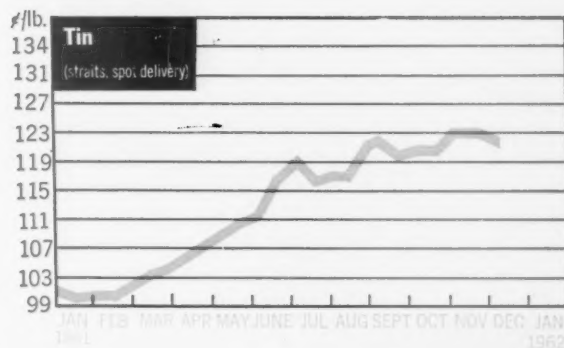
Aluminum: Fourth quarter aluminum operations have generally been at a high level. Extrusion demand has been strong, especially from furniture makers who are now working on Spring deliveries.

Next year, aluminum production is expected to improve even further and producers hope demand will be strong enough to support the extra output.

Wholesale Prices: The Department of Labor's Bureau of Labor Statistics says that its Wholesale Price Index fell 0.8% in October to 118.7 (1947-49=100). A decline in average industrial prices was principally responsible.

The metals and metal products index moved downward for the first time since December, 1960. Overcapacity in the aluminum industry and a slackening in steel production stemming from automobile strikes were the underlying reasons for the decline. Lower prices for aluminum and steel products more than offset price hikes for wastepaper, textiles, leather and various types of machinery.

Chemical prices weakened fractionally and crude natural rubber prices dropped 2.7%. Quotations for brass scrap, copper water tubing, and some wire items also moved lower.



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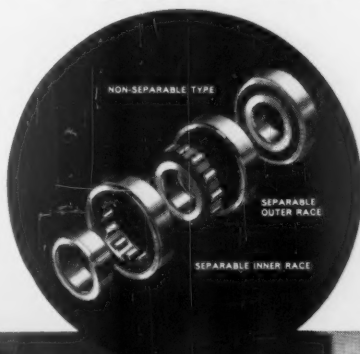


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Logistics Management Institute Gets \$600,000 Defense Contract

THE DEPARTMENT of Defense has awarded a \$600,000 contract to the newly created Logistics Management Institute to study problems of military inventory surpluses, modernization of procurement, contract negotiation procedures, and production incentives.

The institute was established several months ago as a full-time organization of business management specialists. Its mission is to provide special skills and a detached point of view in reviewing such basic military supply problems as what to buy, how to buy, and how to manage inventories more effectively.

Set up as a non-profit, fact-finding, and research organization, the Logistics Management Institute represents the same trend in the military management field as several of the non-profit organizations that have developed in the military research and development effort. These include Aerospace Corp., Rand Corp., System Development Corp., and Mitre Corp.

Deputy Secretary of Defense Roswell L. Gilpatric explains the innovation as a means of tapping new resources for solving logistics problems.

"Frequently such problems," he points out, "can best be attacked by experienced research and management people who look at the defense maze from a completely objective point of view. Career military and civil-

ian staffs, preoccupied as they are with day-to-day operations of the complex procurement and supply system, generally lack both the time and the detached approach for probing major problems in depth. As one step toward bringing the vast logistics area under tighter control and thus effecting savings of tens of millions of dollars, a separate non-profit organization called the Logistics Management Institute has been established to make continued studies and prepare practical action plans for the Secretary of Defense."



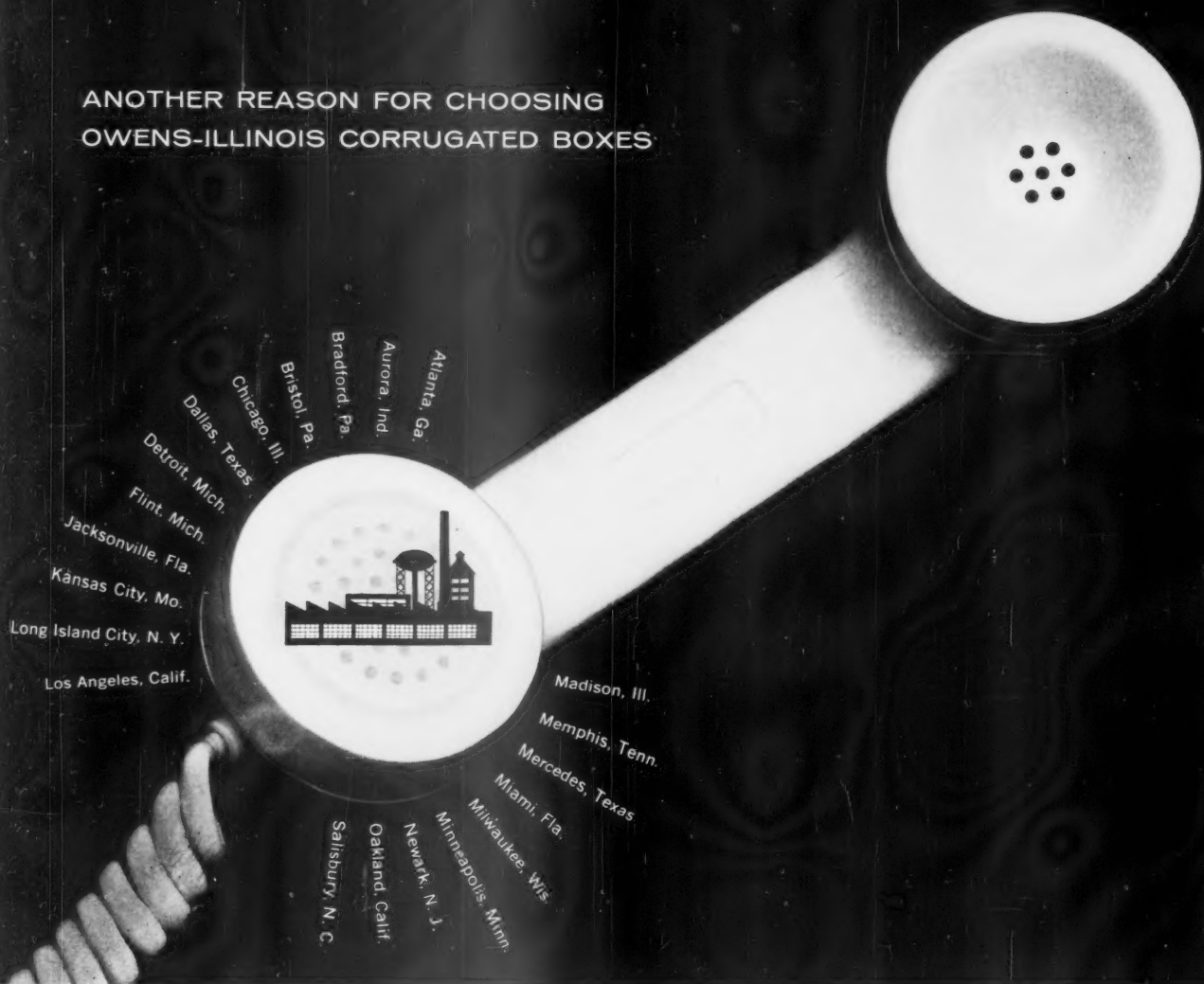
Defense Department's Roswell Gilpatric: An outside view and a new approach are needed to analyze the nation's defense procurement program.

Under a board of trustees headed by Charles Kellstadt, chairman of Sears and Roebuck Company, the institute will have a small permanent staff. For special projects, this staff will be augmented with management talent from consulting firms, universities, and business organizations.

● Govt. Economists Foresee Rise in '62

A big surge in consumer buying, a step-up in inventory accumulation, and a substantial increase in capital expenditure

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are being forecast for next year by government economists. This is in marked contrast to some industry surveys, which indicate only a moderate lift to the economy.

Consumer Buying to Rise

The President's Council of Economic Advisers says that the Gross National Product will reach \$565 to \$570 billion by the middle of 1962, with the boost coming from a sharp increase in consumer buying—especially durables. Inventory accumulation will increase, they say, and by midyear plant and equipment spending is also expected to pick up.

So far, consumers have not shown any intentions of going on a buying splurge. The latest Federal Reserve Board survey of consumer buying intentions shows that there has been little change during recent months in consumer plans to buy houses and most types of durable goods, compared with the recession period of last spring.

Personal consumption expenditures have been rising during the last nine months, but not as fast as personal savings. In addition, spending for services has increased at a much faster rate than purchases of goods. Government forecasters suggest that consumers will switch next year from saving—and from the purchase of services—to buying a larger volume of goods.

Buyers Are Cautious

An increase in the rate of inventory accumulation is also counted on to boost the GNP. Inventory was accumulated at an annual rate of \$4½ billion in the third quarter of 1961—sharply up from the second quarter of the year.

Reports from industry indicate that buyers are taking a cautious approach to inventories. They are increasing their accumulation but maintaining a conservative approach in keeping inventory-to-sales ratios

down.

Two factors that could break them out of this fairly tight mold are:

(1) Large-scale buying in steel as a hedge against the possibility of a steel industry strike when the steelworker contracts expire June 30.

(2) A really significant upturn in consumer purchases of durable goods, housing, and autos.

Government economists are encouraged by automobile industry forecasts of a possible seven million car year. However, some observers here have a tendency to discount the early optimism that tends to color year-end statements.

Capital Spending Lags

There has been some disappointment over the lag in plant and equipment spending. Among the reasons cited for this lag are: (A) Capital expenditures are a slow starter, and develop large volume only after the recovery trend is clear and the volume of demand begins to press against capacity, and (B) The general uncertainty about government policy on the 8% tax credit proposal for new plant and equipment expenditures.

Treasury Department officials have repeatedly declared that the 8% tax credit will be vigorously supported during the initial sessions of the new Congress. There is also a feeling of confidence here that Congress will enact such a tax incentive to stimulate capital investment.


It is likely that whatever concession is voted will be made retroactive to January 1, 1962. Nevertheless, trade sources report that buyers will tend to delay purchases until the tax credit is finally legislated.

At press time, the Internal Revenue Service said that it was studying possible revisions of depreciation schedules of six industries.—A. N. Weckler



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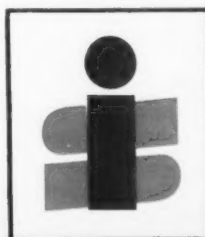


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PURCHASING

Major World Currencies Facing Severe Test

THE WORLD'S currency structure is now facing its severest test since before World War II. The future stability of world trade depends very largely on how this current situation is handled.

The pound and the dollar remain the only currencies available for use on any widespread scale in financing international trade. Yet both are now sufficiently weak to cast suspicion on their future effectiveness as reserve currency. Even worse, the prospects of improvement for either seem to depend increasingly on further deterioration of the other.

Throughout most of 1960, the dollar was under grave suspicion. This was reflected in a massive outflow of gold from the United States. After the Kennedy Administration came into power, it was finally able to convince the rest of the world that no devaluation of the dollar was in immediate prospect. At the same time, the pound was also under pressure—partially disguised by the flight of gold from the dollar and also by the emergency scheme by which other European countries temporarily stockpiled their surplus sterling instead of converting it into gold or other currencies.

This camouflage was rudely torn aside this summer, when Britain went to the International Monetary Fund for a large loan out of which to repay these temporary credits. The scale of this assistance was then revealed to have been much greater

than had been suspected.

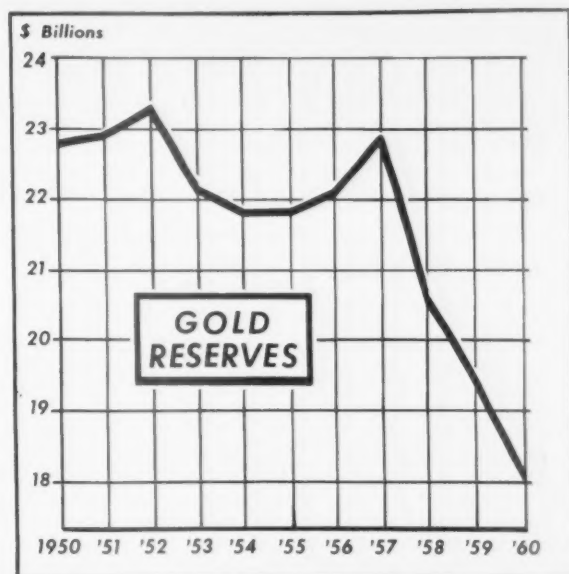
Meanwhile, the upturn in the U. S. economy that had been hoped for throughout the Free World started to take place. This movement raised hopes that a general improvement in the level of world trade would be triggered. European nations anticipated a substantial revival in their exports of manufactured goods, while the primary producers—with perennial optimism—looked for a general recovery in raw material prices and thus their own purchasing power.

Disappointment and disillusion soon set in. It is already

clear that the strength of the American upturn is much less than had generally been expected, raising the fear that each successive recovery from recession may prove weaker and shorter-lived than its predecessor. Western Europe has another worry: the degree of recovery achieved by the U. S. has been accompanied not by a general expansion of both American imports and exports, but by a renewed rise in the country's adverse balance of payments.

Thus, both countries which act as bankers to the world—the United States and Great Britain—are now suffering from simi-

Where's All Our Gold?



American gold reserves have declined markedly since 1957. Great Britain may now be facing a similar problem.



This is
AMERICAN OIL
COMPANY
in action

How AMOCOOL* Transparent Coolant

helped improve profit picture in this plant

Eliminate reworking because of rust, reduce wheel loading and extend intervals between wheel dressings; do these and you increase profit per unit, explains Detroit Edge Tool president, Dan Ebbing, to P. E. "Pappy" Stratton of American Oil. Sam Vineh, operator, looks on.



by PAUL E. "PAPPY" STRATTON About the Author.

"Pappy" Stratton has been providing technical help on lubrication and metalworking problems to customers in the Detroit area for nearly all of the twenty-five years he has been working for the company. In addition to having this store of practical experience to help him, Pappy has completed the Company's Sales Engineering School.

* * *

By using a soap-base grinding compound, Detroit Edge Tool Company was getting excessive corrosion and rust on work and grinding machines. Oil vapor was collecting on machines

and on the ceiling, causing dirty working conditions. Most important, high wheel loading was causing frequent down-time for wheel dressings.

We worked out a test program on Amocool Transparent Coolant with the management. On our first test on one surface grinder, feed pressure was cut substantially while at the same time metal removal was increased.

The cost of reworking parts to remove rust was eliminated. Time required to clean machines to get rid of the odor was cut in half. Less wheel loading and fewer wheel dressings have upped production and reduced costs. Our test program paid out in an improved profit picture. All grinding

and drilling equipment has been converted to Amocool Transparent Coolant.

* * *

Would you like this kind of technical help to assist you in improving profits? Get it by calling the American Oil Company office nearest you.

*Trademark

AMERICAN
OIL
COMPANY



910 SOUTH MICHIGAN AVENUE
CHICAGO 80, ILLINOIS

For More Facts Write No. 170 on Information Card—Last Page

lar symptoms: an economy which persistently grows much more slowly than those of other industrial countries, a balance of payments position that worsens as soon as expansion gets beyond a certain point, and speculative distrust of its currency.

Action Is Required

From the dollar's point of view, action to change the framework of international finance is now urgently necessary. Britain's large loan from the IMF has seriously depleted Britain's lending power, even if the currencies it now has were suitable for meeting American needs.

The fact that Britain has recently felt compelled to convert \$300 million into gold at a time when renewed pressure on the dollar is already mounting is evidence both of the continuing gravity of the British position and of the difficulty that will be encountered in mounting a rescue operation for the dollar similar to that which saved the pound earlier.

Despite the expediences of earlier years, the world is now aware that the reserves available to finance world trade have not grown as fast as that trade itself. Unless this reserve is improved, the whole pattern of international exchange of goods and services is liable to fall apart—with a painful retreat from liberalization to barter and bilateralism.

A considerable responsibility rests upon the surplus countries of Europe to put their funds to work again—especially France, West Germany and Italy, who defeated plans put forward earlier this year at the Vienna meeting of the IMF which might have solved the question of world liquidity. The era of immediate post-war shortage is over, when the United States could sell anything abroad and was bound to run an export surplus. Now both America and

Britain find it impossible to build up a sufficient surplus to finance their other obligations, such as economic aid to the underdeveloped countries, military assistance and capital for the British Commonwealth nations.

The time in which to settle these questions is growing shorter. Unless answers are found, 1962 could be a disastrous year for the major trading nations and for all those who depend on them. The crux of the matter may turn out to be whether the United States will bargain a higher gold price against more liberal policies by Europeans in putting their hoards of gold back into circulation.

● **Britain May Switch to Decimal Coinage**

After years of semi-practical and semi-sentimental resistance, Britain appears to be coming closer to accepting a decimal coinage. The governing factor in the change of sentiment is the need to standardize as many areas as possible with the European continent, if Britain joins

the Common Market.

The National Union of Manufacturers, the organization representing smaller British firms, has gone on record in its annual report in favor of decimal coinage. It has informed Selwyn Lloyd, Chancellor of the Exchequer, of its feelings.

Although the system of pounds, shillings, and pence has some technical advantages—such as the fact that 240 and 12 have more factors than 10 and 100 and can be exactly divided by three—most Commonwealth countries and most representative bodies of business men in Britain believe that decimal coinage would be better. Daily calculations would be made much easier and enough labor and time would be saved by large organizations to cut down the number of people they employ.

Many observers believe that by changing to decimals Britain would not only be falling belatedly into line with the rest of the world, but also be making a timely gesture of solidarity to Europe.

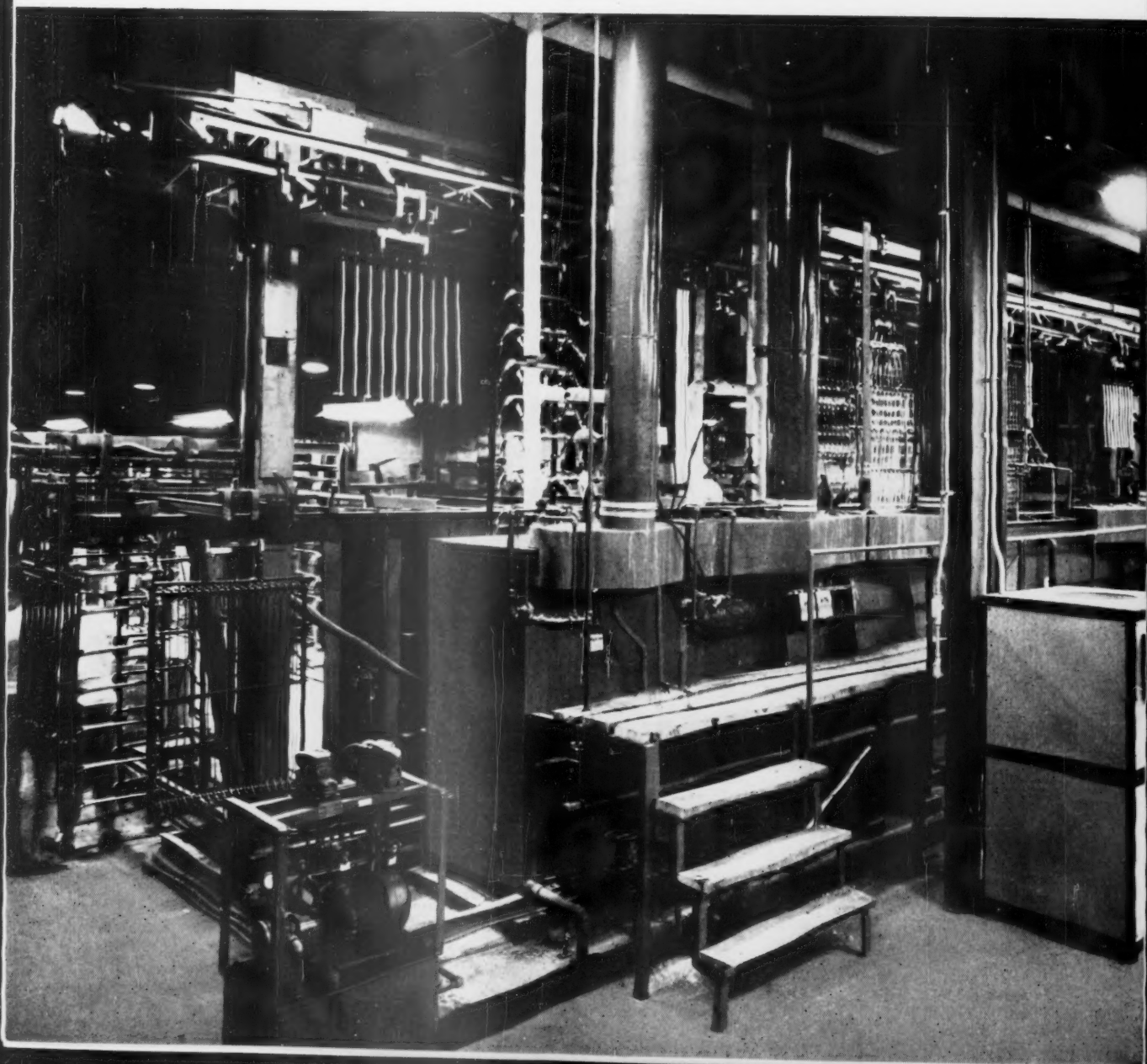
New Products From Europe

Here are a few of the more recent developments in European industry:

Color-Matching by Computer—A computer is now being used to match colors by Imperial Chemical Industries. (Hexagon House, Blackley, Manchester, England). Instruments express quantitatively the reflection of light from a dyed piece using three standard wavelengths. A computer program then tells how much of which dye is needed to reproduce the exact shade of the original cloth.

Treatments for Metals—Way to cut, weld, and drill hard metals and gems by means of hair-fine electron beams has been developed by Carl Zeiss Foundation (Oberkochen, West Germany). The electron beams have an energy density of 500,000 kilowatts per square centimeter. The beams either fuse the material on which they fall or remove some of the surface by vaporizing it. The work is done in vacuum chambers.

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quality at





its finest!

Udylite Full Automatic and the Incomparable "66" put more "sell" in accessories

"Our Udylite Full Automatic is the nucleus of the largest plating plant in the notions industry," states Mr. E. Desmond Lee, President of the Lee-Rowan Company, St. Louis, Missouri. "It was selected because of our need for increased plating production and its built-in quality control." ■

The customer-stopping appearance of Lee-Rowan accessories and closet convenience items starts with the base nickel plating. The Udylite Incomparable "66" Process provides the bright finish and top leveling action required for lustrous chrome plating or jewelry finishing in 24K gold. The result is a line of metal accessories that have become top-selling impulse items in notion departments across the country. ■

The Udylite Full Automatic, in conjunction with the many superior Udylite Plating Processes, assures top finish quality at the lowest possible cost-per-unit. Ask your Udylite Representative how you can improve your product appearance, boost sales and step-up plating production. Udylite engineers will then recommend the right machine and the right process for your specific application.



THE UDYLITE CORPORATION
DETROIT 11, MICHIGAN

◀ The Udylite Full Automatic installed at Lee-Rowan is 83' 5" long, 11' 11" wide and has a ceiling height of 14' 4". Racks are 30" x 12" x 54".

Purchasing Follow-up

1962 Outlook Optimistic, Says Chamber's Schmidt

The economic outlook for 1962 is generally optimistic "barring serious strikes and unforeseen international turbulence," according to Dr. Emerson P. Schmidt, director of economic research of the Chamber of Commerce of the United States.

Speaking at the first half outlook session conducted by the Chamber, Dr. Schmidt predicted a Gross National Product for 1962 of \$560 billion to \$565 billion. And he declared that the current economic expansion should continue at least until August 1963. The unemployment rate may drop to 5.5% of the labor force, he added.

Dr. Schmidt said also that "Government is the major growth industry for the year ahead. Given sound fiscal and monetary policies and a willingness to disperse union officials' undue market power, the several growth factors—reinforcing one another—should lead to new high levels of output, employment, and profits in 1962."

He noted that both consumer credit and interest rates are likely to rise next year. And he observed that "about three-quarters of the leading economic indicators of the National Bureau of Economic Research are pointing toward further improvement."

Another speaker at the conference—Paul E. Herzog, director of research of the National Automobile Dealers Association—predicted "substantially improved sales volume for 1962" for the automotive industry. He said that new car sales would total 6.7 million units during the year, including 350,000 imports, marking the second best automobile sales year in history (1955 was first with 7.2 million sales).



1962 should show improvement "from beginning to end," says Dr. Emerson P. Schmidt of the U.S. Chamber of Commerce. Major growth industry for the year will be government, he notes.

Discussing the construction outlook, Charlson I. Mehl, administrative secretary of the Associated General Contractors of America, said that 1962 will see "a substantial increase in construction dollar volume." He declared that there would be a 4½% gain over 1961 in the value of new construction put in place, making the total \$59.8 billion.

Irwin H. Such, vice president-editorial of Penton Publishing Company, outlined and analyzed the outlook for steel and machine tools, while William J. Cheyney, executive vice president of the National Foundation for Consumer Credit, covered the outlook for consumer credit.

New York Unemployment Declines to 4.9%

Unemployment in New York State dropped 30,000 to 380,000 in October, reports Industrial Commissioner M. P. Catherwood. This brought the unemployment rate down to 4.9% of the labor force.

Total employment in the state during the month was 7,430,000—up 5000 over the October 1960 level. This was the first gain over comparable year-ago levels in ten months. Gains in construction, trade, government, and manufacturing of apparel and Christmas-allied products accounted for a noticeable increase in non-farm jobs.

The improvement in employment conditions was led by New York City, Westchester, and Rochester. In New York City, for example, the unemployment rate was 5.1%, 0.5% lower than the previous month.

Steel Shipments Fall Below Year-Ago Level

Shipments of finished steel products direct from mills totaled 54,578,772 tons during the first 10 months of 1961, says the American Iron and Steel Institute. This is almost eight million tons less than the amount shipped in the similar period of 1960.

Warehouses and distributors received 18.7% of the total; the automotive industry took 18.1%. Among the other principal groups receiving direct mill shipments were the construction industry, 14.6%; containers, packaging, and shipping materials, 10.6%; and contractors' products, 6%.

Some of the major products and their percentage of total deliveries during the January-October period were: cold-rolled sheets, 17.8%; hot-rolled sheets, 10.4%; hot-rolled bars (including light shapes), 9.5%; plates, 8.7%; and electrolytic tinplate, 8.5%.

Shipments during October amounted to 6,045,841 tons, compared with 6,057,705 tons in the previous month and 4,943,623 tons in the similar month a year ago.



?



PRIMA

From samples to truckloads of chemicals, industry relies on Thompson-Hayward



A tractor-trailer load of chemicals leaves the Thompson-Hayward loading dock enroute to a local industrial customer.

Whatever the size or nature of the order, virtually every kind of industry in their distribution area relies on Thompson-Hayward Chemical Company for service.

This unusual distributor organization has a network of 19 midwest branches, each with its own sales force, delivery and warehousing facilities. Experienced Technical Representatives not only staff these offices, but also live within the areas they serve. They know the industries in their territories well, and are trained to help solve customers' chemical problems. Thompson-Hayward's representatives are backed by the company's extensive laboratory facilities at Kansas City and New Orleans. Manufacturing facilities for agricultural pesticides and feed chemical products are also at Kansas City and New Orleans.

Thompson-Hayward Chemical Company offers its customers the kind of service, delivery and warehouse facilities typical of the selected group of chemical distributors handling Olin Mathieson products. For the name of the Olin Mathieson chemicals distributor in your area, write or call OLIN MATHIESON, Baltimore 3, Maryland.

Olin
CHEMICALS DIVISION



Aerial view of the new and expanding Thompson-Hayward Chemical Company facilities in Kansas City, Mo. Note manufacturing facilities under construction at upper left. Offices and warehouse are in foreground.



Modern data processing equipment, centered in Kansas City, Mo., is used to handle Thompson-Hayward's large volume of orders for chemicals.

Ammonia • Carbon Dioxide • Caustic Soda • Chlorine • Hydrazine and Derivatives • Hypochlorite Products • Methanol • Muriatic Acid • Nitric Acid • Soda Ash • Sodium Bicarbonate • Sodium Chlorate • Sodium Chlorite Products • Sodium Methylete • Sodium Nitrate • Sulfur (Processed) • Sulfuric Acid • Urea • Trisodium Phosphate • Trisodium Phosphate Chlorinated • Sodium Tripolyphosphate • Tetrasodium Pyrophosphate • Polyphos (Sodium Hexametaphosphate) • Monosodium Phosphate • Disodium Phosphate • Sodium Acid Pyrophosphate • Tetrapotassium Pyrophosphate • Hydrofluoric Acid • Phosphoric Acid • Sodium Silicofluoride • Sodium Fluoride • Teox® 120 Surfactant.

2249

For More Facts Write No. 173 on Information Card—Last Page

Your Carborundum Barrel Finishing Specialist can help you put your metal finishing operations on a profit basis. He has successfully introduced barrel finishing to many plants, large and small. He has proved its value for a variety of manufacturing processes, including stamping, forging, sand mold and die casting, machining and others. He knows how to make a correct on-the-job analysis and can recommend the procedure best suited to your own cost and finish requirements. Let him demonstrate how the **Carbotrol 7** Process can finish your parts less expensively and faster than by any other method. Phone your local Carborundum distributor or district office.

CARBOTROL 7—CARBORUNDUM

**ADD THIS
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to your
barrel
finishing
team**

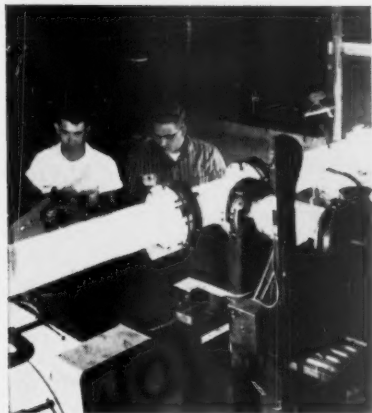


THIS IS GLASS

A BULLETIN OF PRACTICAL NEW IDEAS



FROM CORNING



HOW TO STUDY A BLIP

When you go to all the trouble of generating two opposed gas waves, each travelling eighty times the speed of sound, you like to get a permanent visual record of what happens when they meet.

A gas physics group at Boeing Scientific Research Laboratories is doing this with the help of a twelve-foot length of PYREX® glass pipe . . . believed to be the largest tube ever used in work of this sort.

At wave impact the tube blips light for a few microseconds, and a camera stops the action and spectra of the radiation for further study.

The data collected could show important results in effective ion- and plasma-propulsion systems. The tube is also expected to be useful in measuring gas temperatures up to several million degrees.

The tube is made from the same tough borosilicate glass as our pipe for chemical and food processing plants and our drainlines and heat exchangers.

If you would like to know more about it, so that you could put its strength and transparency to work on some task of yours, send the coupon.

WE NEVER MADE A TEST TUBE GREEN; WE NEVER HOPE TO MAKE ONE, BUT . . .

Should you want a test tube green or yellow or blue or a mirror-blank red, a piece of pipe cerise, or anything else that can be made from glass in any color known to man, we can make it.

That's no trick. Anyone can make colored glass.

But to make a glass the same color, right on the beam, every time . . . that, sir, is a trick, a trick we perform to perfection.

We helped set the color standards for railroad and airport and traffic signal lenses and then were able to duplicate and reduplicate the standard colors a million times.



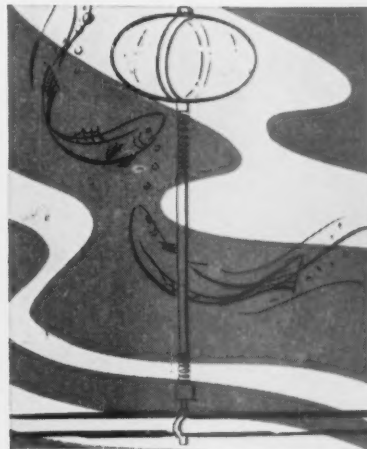
This man is looking through one of many drawers of samples of colored glasses we have melted and can duplicate for you. Among these glasses you will find many that can take thermal shock or corrosive environments, glasses with high dielectric constants or low, glasses that are transparent, translucent, or practically opaque . . . in short, glasses that not only have carefully controlled color but are replete with the many other desirable properties you connect with Corning products.

From these glasses we can make you things that are big. Or small. One. Or a million. Intricate. Or simple.

That's our story on color in glass . . . capability.

All we need are your ideas. All you need to get started is our bulletin on colored filters to get an idea of the range we're speaking of. Send the coupon for a copy.

NEW WAY TO HOLD THINGS UP WHEN YOU GO DOWN TO THE SEA



Glass goes well with the briny. That's more than you can say for most materials.

It's also why we think glass may make the perfect flotation capsule.

We've already made an 8" by 4" capsule that withstands 17,500 psi. It has a density of 0.45 that of water. You can lower it to 3000 fathoms and retain a net upward force of about one pound.

You can put it into the saltiest sea and leave it for centuries, and it will never let you, or the objects you suspend, down. (Remember those wine bottles they found sleeping at the bottom of the Mediterranean some twenty centuries after the ship had sunk?)

With a capsule like this you should find it a simple, inexpensive matter to suspend instruments for the study of marine life, ocean currents, and underwater topography. You could suspend transoceanic communications equipment.

We welcome any interest you might have in these or even larger capsules. Please write.



CORNING MEANS RESEARCH IN GLASS

CORNING GLASS WORKS, 5212 Crystal St., Corning, N.Y.

Please send information on:

☐ PYREX glass pipe ☐ Colored filters ☐ Flotation capsules

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HOW BOYERTOWN KEEPS EVERY BODY HAPPY



Boyertown Auto Body Works of Boyertown, Pennsylvania is keeping delivery truck owners, drivers and maintenance men especially happy these days by using a new, all-around material in its body construction: J&L Nickel-Copper-Titanium high-strength forming steel.

The owner is pleased because lighter weight means lower operating cost. And Boyertown has been able to save from 600 to 650 pounds over mild steel in a 12-foot forward control delivery body—with no sacrifice of strength!

The driver is satisfied because the increased ductility of J&L Nickel-Copper-Titanium makes it possible for Boyertown to design bodies with greater flexibility—provide more convenience and safety for the man behind the wheel.

The maintenance man is happiest of all. J&L Nickel-Copper-Titanium has a minimum of 4 times the corrosion resistance of mild steel. (For extra protection, Boyertown coats it with rust-inhibiting zinc chromate). It has greater abrasive and impact resistance, and less tendency to dent and wear.

When maintenance is necessary, dents can be easily "bumped out," and repairs are quick and inexpensive.

That's why Boyertown—a pioneer in the use of high-strength steel—continues to specify J&L Nickel-Copper-Titanium for its exterior and interior truck panels, posts, ribs, cross members, floors, doors and windshield assembly. Ask your J&L salesman about J&L's other new high-strength steels, JLX-W Columbium-Bearing and J&L "Cor-Ten."

Jones & Laughlin Steel Corporation

3 Gateway Center, Pittsburgh 30, Pennsylvania

For More Facts Write No. 176 on Information Card—Last Page



Information For Your Catalog Files

ALLOY STEEL TUBING

A 42-page technical and metallurgical data booklet on alloy steel tubing. Includes charts, diagrams, and photographs. Describes basic characteristics, recommended procedures, and tables of temperature and hardness conversion.

Peterson Steels, Inc.

Write No. 1 on Information Card—Last Page

BALL VALVES

Bulletin ADB-1001 details the working parts and applications of ball valves. The brochure includes photos showing how the cartridge—containing all working parts—can be slipped out the bottom, in one piece, while the valve body remains in-line. Has details on pressure ratings, temperature ratings, and sizes.

Crane Co.

Write No. 2 on Information Card—Last Page

BOILERS

Bulletin 949-A describes Kewanee scotch type boilers for high and low pressure operation. The 12-page, two-color catalog discusses capacities, engineering features, ratings, data, and dimensions of both oil or gas fired boilers. Includes photographs, line drawings, typical specifications, and a list of standard and optional accessories.

American-Standard

Write No. 3 on Information Card—Last Page

CRANES

A 12-page, two-color brochure describing a line of pre-engineered cranes. Discusses bridge, trolley, and hoist features, and describes operation of the floor- and cab-operated cranes. Illustrates the various components and specifications.

Novo Industrial Corporation

Write No. 4 on Information Card—Last Page

FIRE BRICK

A 16-page brochure outlining the characteristics and properties of insulated fire brick. Describes six types designed to cover exposed service temperatures ranging from 1600 degrees F to 2900 degrees F. Includes data on heat loss, temperature gradients, and heat storage capacities.

Kaiser Refractories

Write No. 5 on Information Card—Last Page

HEATING COMPONENTS

Bulletin CCS-1 describes a complete line of industrial heating components. Includes coordinated combustion equipment used for mixing, safety, burning, controlling, measuring, and testing. Pictures each component.

Selas Corporation of America

Write No. 6 on Information Card—Last Page

MAGNET WIRE

A 56-page reference booklet giving information on magnet wire. Includes round, square, and rectangular shapes with film, fibrous, and combinations of film and fibrous coverings. Charts illustrate the advantages and limits of various types of insulations.

Kennecott Wire and Cable

Write No. 7 on Information Card—Last Page

METER RELAYS

Bulletin No. 02-106 discusses features and specifications of double-action meter relays. Provides installation data, dimensions, and details of components. Includes a number of applications.

Daystrom, Incorporated

Write No. 8 on Information Card—Last Page

PACKINGS

Bulletin AD-191 gives information on 70 standard styles of braided and twisted packings. The illustrated, 20-page brochure includes a recommendation table covering the most widely used products for various media. A special section describes molded asbestos valve rings and lubricating materials.

Garlock Inc.

Write No. 9 on Information Card—Last Page

PUMPING UNITS

Brochure No. V-2 describes and illustrates two-stage Vanguard hydraulic pumping units. The four-color bulletin includes complete technical data and available accessories.

Owatonna Tool Company

Write No. 10 on Information Card—Last Page

RECTIFIERS

A 12-page catalog describing design, features, and components of the Ultrasil rectifier line. Includes photographs, charts, and tables. Gives information on control elements, diode assembly, rheostats, switches and transformers.

Udylite Corporation

Write No. 11 on Information Card—Last Page

REINFORCED PLASTICS

A four-page bulletin describes a line of molded polyester-glass. Covers cost, flexibility of design, reduced weight, and increased mechanical strength. The illustrated catalog discusses applications and contains a list of mechanical, electrical, and physical properties.

National Vulcanized Fibre Co.

Write No. 12 on Information Card—Last Page

THESE FIRMS SELL, STOCK AND SERVICE CARMET TOOLS

ALABAMA

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Mill & Textile Supply Co., Inc.

CALIFORNIA

El Monte
Pacific Abrasives Supply Co.
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Los Angeles
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Mountain View
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San Francisco
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Santa Ana
Pacific Abrasives Supply Co.
Santa Monica
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Moline
Willard H. Johnson Tool Supply Co.
Rockford
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A. O. Barnes Company
Columbus
Quality Mill Supply Co., Inc.
Indianapolis
Central Rubber & Supply Co., Inc.
Quality Mill Supply Co., Inc.
Fort Wayne
Oren-Van Aman Co., Inc.
South Bend
National Mill Supply, Inc.

IOWA

Ottumwa
Valley Supply Company

MAINE

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Laird deVou, Inc.

MARYLAND

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Pittsfield
Berkshire Mill Supply Co.
Worcester
Industrial Supplies of Worcester

MICHIGAN

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Great Lakes Mill Supply Co.
Pro Mac Tooling, Inc.
Grand Rapids
B. H. W. Tool Sales, Inc.
Lansing
Central Michigan Tool Supply, Inc.
Saginaw
Waltz Industrial Supply Co., Inc.

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Minneapolis
Junger Steel & Supply Co.

MISSOURI

Kansas City
Steel Sales & Equipment Co.
St. Louis
Midwest Tool & Supply Co.

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Brace-Mueller-Huntley, Inc.
Smith-West Corporation
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Eden Industrial Sales Co.
New York
Browning Brothers, Inc.
Morris Abrams, Inc.
Rochester
Brace-Mueller-Huntley, Inc.
Syracuse
Brace-Mueller-Huntley, Inc.
Troy
J. M. Warren & Company

NEW JERSEY

Linden
Koenig Industrial Supply Co.

NORTH CAROLINA

Gastonia
The Gastonia Supply Co.

OHIO

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Allied Abrasives & Tools, Inc.
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"Here Is The Tool
I Use To Cut My
Carbide Tool Inventory"

"The pressure is off my carbide tool inventory since I discovered my local Carmet distributor is as near as my telephone. I always get fast off-the-shelf delivery. He'll stock any Carmet carbide tool I need. And I know they're quality tools."

"By relying on my local Carmet distributor, I've held our inventory to a more reasonable level. We have saved valuable warehouse space, too."

"Another thing we like is the technical help we get from our local Carmet distributor. He has the experience to help us select the right grade and style of tool for our needs. And the local Carmet Sales and Service Representative works right with him."

Check with your Carmet distributor (listed here) and get a copy of the Carmet 32-page catalog or write *Carmet Division, Allegheny Ludlum Steel Corporation, Detroit 20, Michigan. Address Dept. P-12.*



For More Facts Write No. 177 on Information Card—Last Page

DELTA FILES



• *cut faster*
• *last longer*

See Your DELTA Industrial Distributor

DELTA FILE WORKS, INC., PHILADELPHIA 37, PA.

PLUMB *Subsidiary*

For More Facts Write No. 178 on Information Card—Last Page

Catalog Files

RELAYS

Catalog GEA-6628B lists a broad line of miniature, sub-miniature, micro-miniature, and Unimite hermetically sealed relays. Includes information on relay type, coil resistance, voltage calibration, application curves, vibration specifications and mountings.

General Electric Company

Write No. 13 on Information Card—Last Page

SCREWDRIVING TOOLS

A 16-page illustrated catalog describing screwdriving tools. Lists power bits, bit holders, hand drivers, and insert bits. Includes tools to drive Phillips, Frearson, Reed & Prince, Slotted, Clutch Head, Socket Head, Hex Head, Spline, Slab, Robertson, and Linread screws.

Apex Machine & Tool Co.

Write No. 14 on Information Card—Last Page

SPEED REDUCERS

Catalog No. 43C describes right-angle spiral bevel-helical gear speed reducers. The 36-page bulletin includes specification charts, tables, and dimensional drawings.

Kennecott Wire and Cable

Write No. 15 on Information Card—Last Page

SWITCHES

Bulletin 020-101 describes miniature snap-action switches. The four-page, two-color brochure contains detailed dimension drawings, definitions, and illustrations of technical terms.

Fansteel Metallurgical Corporation

Write No. 16 on Information Card—Last Page

WAXES

Technical Bulletin 22 emphasizes slip properties of waxes. The 12-page catalog includes 20 different graphs that show penetration, solid- and liquid-state viscosities, densities, and solubility of the waxes in various commercial solvents.

Sun Oil Company

Write No. 17 on Information Card—Last Page

PURCHASING

Selection of finest raw materials

Testing every step of the way

Inspection to rigid standards

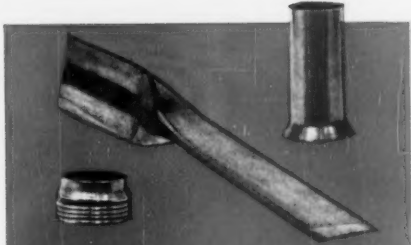
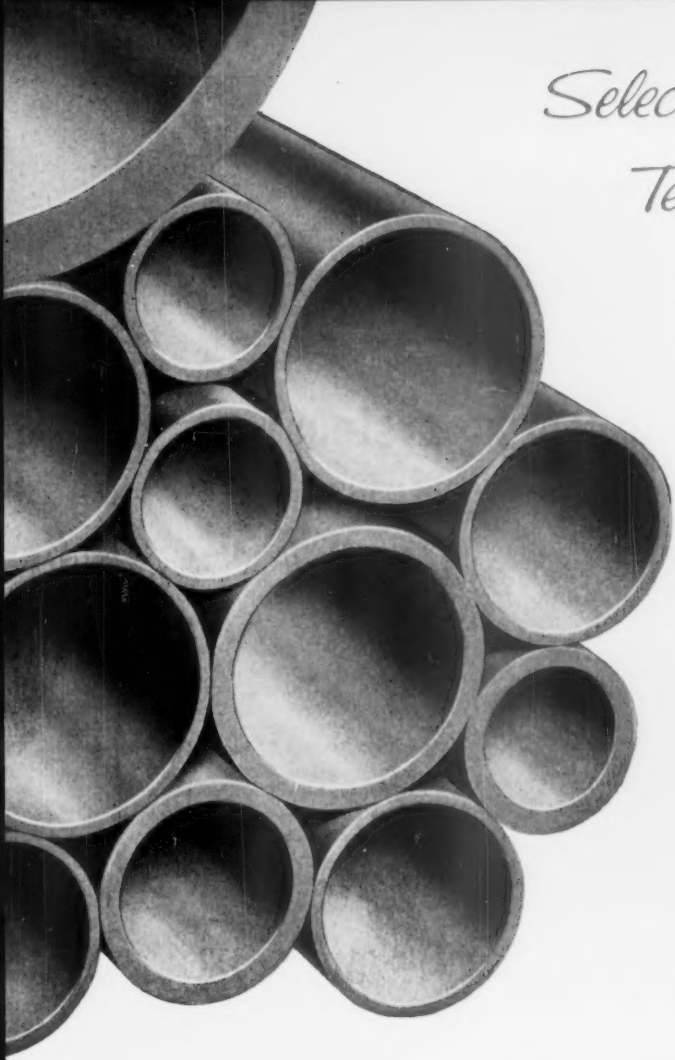
*Assure 100%
dependability for*

OHIO WELDED PRESSURE TUBING

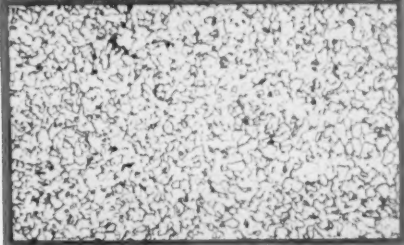
You can be sure — doubly sure — of utmost tubing dependability when you specify Ohio Welded Pressure Tubing — *made by Ohio Seamless*. First, Ohio works to accepted industry standards — ASTM, ASME, and similar Federal and military specifications covering welded pressure tubing. Second, Ohio Welded Pressure Tubing is produced under a *continuous* process of quality control — not just a final test inspection to cull questionable material.

Carefully selected prime raw material is slit, edged, shaped and electric resistance welded on the most versatile and modern equipment in operation. At each and every step of the way Ohio Welded Pressure Tubing is under the scrutiny of Ohio's master tubemakers . . . making control tests at frequent intervals . . . testing random samples from each production order far beyond the limits of the usage involved.

For critical pressure piping applications . . . for condensers, heat exchangers, boilers and superheaters — in the range of sizes from $\frac{1}{2}$ to $7\frac{1}{2}$ " OD and wall thicknesses from .028 to .375" — mark your prints "*Ohio Custom Made Welded Pressure Tubing.*" There is no equivalent.



Photographs show flare, flattening and crush tests performed continuously on every order. Non-destructive tests include air, water, magnetic, eddy current and visual inspection to insure 100% dependability.



Photomicrograph of polished and acid-etched surface shows perfect microstructure of normalized Ohio Welded Pressure Tubing. Weld area running down the center is now indistinguishable and tube has become, in every sense, weldless.



OHIO SEAMLESS TUBE
Division of Copperweld Steel Company
SHELBY • OHIO

Seamless and Electric Resistance Welded Steel Tubing • Fabricating and Forging

Representatives in principal cities. Check leading directories:

THOMAS', MacRAE'S, CONOVER-MAST, SWEET'S, FRASER'S.



This free-span dome, housing the fraternity chapter rooms and recreational facilities, has glass walls which have a greater heat loss than solid walls. Radiant heating was chosen since it heats uniformly and holds temperatures for longer periods of time.

SPANGRID Steel Pipe radiant heating system serves Denver's first Geodesic Dome structure

The Geodesic Dome is a new architectural form, and the Pi Kappa Alpha Fraternity House at the University of Denver is one of the first of this type in the United States.

SPANGRID uniformity helps speed installation

Over 4,000 ft. of SPANGRID Steel Pipe was fabricated for the radiant heating system on the job by two men in less than 60 hours. Pipe was bent on a hydraulic bender with no damage

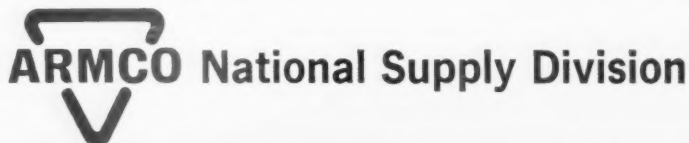
to pipe, weld or finish. The 21-ft. sections were easily welded into the grid and the system was subjected to a 100 psi hydraulic test for 24 hours.

Buy SPANGRID, get quality

In any radiant heating, snow melting, ice rink or refrigeration installation, SPANGRID Steel Pipe can give you top job-site performance, assure years of trouble-free service. Try it! Your local Spang Distributor will be glad to serve you.

SPANGRID Steel Pipe is one of the many fine steel products produced by *National Supply Division, Armco Steel Corporation, Two Gateway Center, Pittsburgh 22, Pennsylvania.*

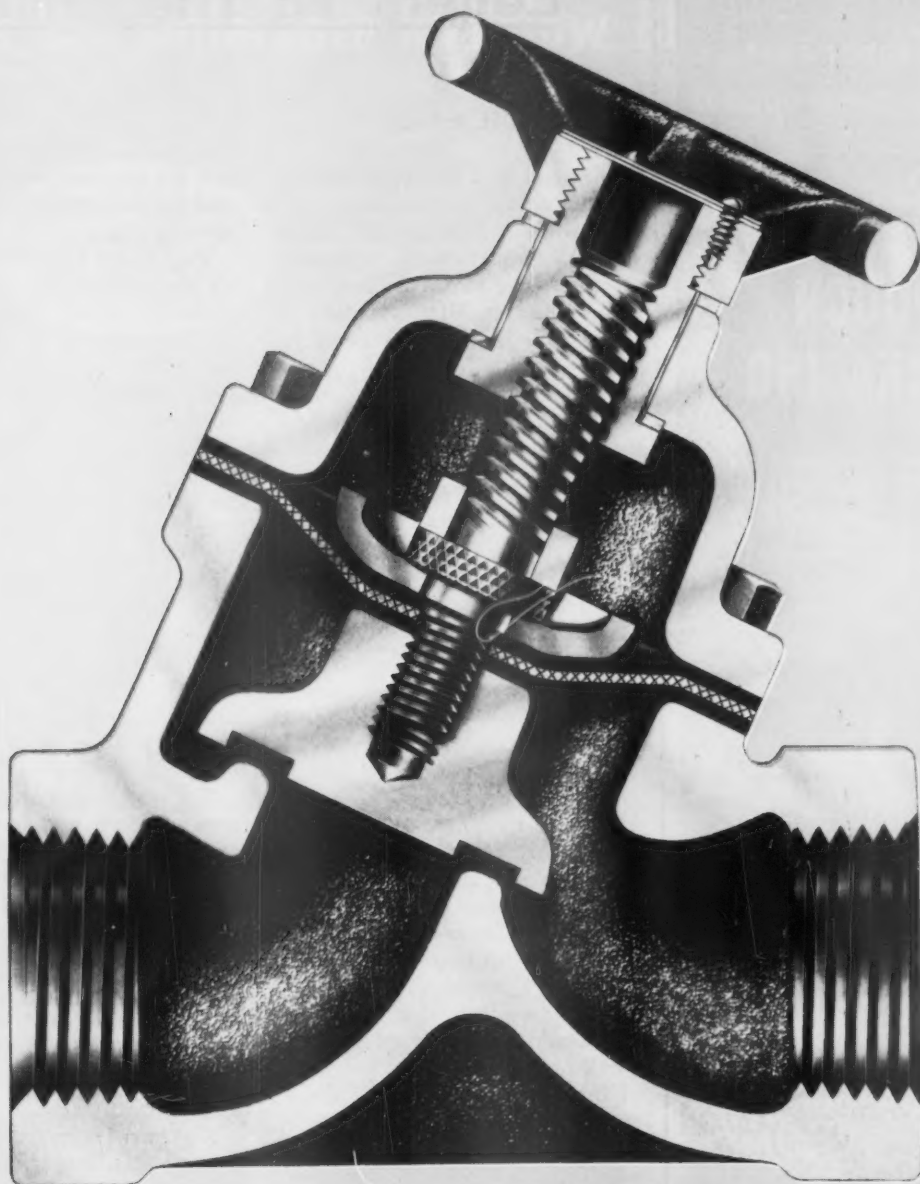
Architect: Thomas E. Moore, Denver, Colorado
General Contractor: Hugh-Hyder Construction Company, Denver
Heating Contractor: Builders Heating & Air Conditioning Company, Denver
SPANG Distributor: Central Pipe & Supply Company, Denver



SPANGRID Steel Pipe is bent hydraulically. Pipe rests on pea gravel based on 2-inch concrete and is covered with 3-inch finished slab.



Steel's Symbol
of strength,
long life,
and economy



Crane diaphragm valves...kind to compressors

Does your compressor run itself ragged pumping air through a leaky stuffing box?

Stop this expensive and annoying leakage with Crane Diaphragm Valves. Their "packless" design makes them ideally suited for service on compressed air lines.

No stem packing is required in this valve. The customary stuffing box around the stem has been eliminated through the use of a flexible diaphragm mounted between body and bonnet. The diaphragm keeps an absolutely tight stem seal and

there is no chance of leakage.

Crane Diaphragm Valves are available in sizes 1/2" to 2" (Screwed ends in Bronze, Cast Iron, Aluminum and 18-8 SMO); 1/2" to 14" (Flanged ends in Cast Iron) and 1/2" to 6" (Flanged ends in Aluminum and 18-8 SMO).

The "packless" feature also makes these valves an excellent choice for many other fluids. For complete details contact your Crane Distributor. Or write to Crane Co., Dept. M, Industrial Products Group, 4100 S. Kedzie Ave., Chicago 32, Illinois.

AT THE
HEART
OF HOME AND
INDUSTRY

CRANE

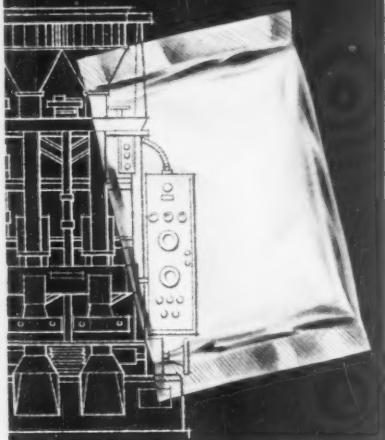
VALVES • PIPING • PUMPS
PLUMBING • HEATING • AIR CONDITIONING
WATER TREATMENT
ELECTRONIC CONTROLS • FITTINGS

For More Facts Write No. 181 on Information Card—Last Page

For low labor cost ...
for high sales-appeal

Riegel

POUCH PACKAGING

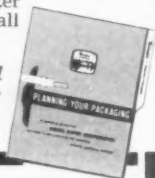


There are many possible advantages to pouch packaging ... lower material cost, higher speed mechanical filling, reduced labor costs, more convenient and more appealing packages.

Almost any product that flows can be pouch packaged ... as can many other items such as processed meats and cheese. There are many different methods, materials and packaging machines ... and it's here that Riegel can help you.

We can supply all basic pouch materials ... whether paper, plastic film, or foil, printed or plain. Our recommendations are unbiased and based on many years of experience. Look into pouch packaging ... whatever you package. And no matter what you package ... call Riegel first.

Send for helpful technical data kit, "Planning Your Packaging." It's free.



Riegel Paper Corporation
P.O. Box 250, New York 16, N.Y.

Please send Technical Folder
"Planning Your Packaging"

Name _____

Title _____

Co. _____

Address _____

Write No. 182 on Information Card-Last Page

46

Letters To The Editor

HOW TO LOSE A SALE

Dear Sir:

I wonder how many purchasing agents experience the same problems we do. For the last three years we have found it necessary to write some of our present suppliers and potential suppliers 3 and 4 times before receiving an answer.

I have one case where, as a result of an advertisement in a trade magazine, I wrote five letters as follows:

November 18, 1960

December 6, 1960

December 20, 1960 (special delivery)

December 30, 1960

January 11, 1961

In a fourth letter I asked "Can't anyone answer letters promptly any more?". In the fifth letter I told them if and when we did receive an answer we wouldn't have any use for it.

Believe it or not, to this date I haven't received the literature requested, nor an answer to any of my letters, nor did anyone call on us to apologize.

You can imagine the cordial treatment I would give a salesman representing this company who would have the misfortune to call on us.

I intend to post some of these letters on a bulletin board in our purchasing department reception room for the benefit of salesmen who might be working for some company who falls in this category.

Ralph F. Brengelman
Lunkenheimer Company
Cincinnati 14, Ohio

• See Editorial on page 69.

ON TARGET

Dear Sir:

One could easily predict the timing of Dean Ammer's article on "Ethics, More Than a Purchasing Problem." Predictable also is the fact that what Dean Ammer writes is usually worth reading.

This time, particularly, the probe went directly home. Missing are the excuses, borderline cases, and the references to scope of responsibility.

Paul Farrell's previous editorial on this subject hit the same spot when he wrote: "Rank carries a special obligation. The man who is in a position to confer favors must keep himself above suspicion of personal gain."

No one is more aware of the need for publicized statements of company codes of ethics and top brass backing of them than the educational P.A. Oftentimes he must make a choice, knowing full well that his school depends on contributions, frequently from industry, for its very existence. Yet, \$10 saved from a purchase order is worth the income resulting from a \$250 endowment.

We all need reminding every now and then, and Dean Ammer's article goes in my tickler file for review every four months.

Robert H. Tollerton
Rochester Institute of
Technology
Rochester, New York

AN OLD FRIEND

Dear Sir:

We have been subscribing to PURCHASING Magazine for quite some time and find it very interesting and informative. It is by far the best in its field.

L. W. LeRoy
Electric Storage Battery Co.
Raleigh, No. Carolina

A NEW FRIEND

Dear Sir:

We have been a subscriber for two years and this is the first opportunity we have taken to commend you on the good job you are doing. Please keep up the good work.

R. C. Moore
Wilpac Manufacturing Co.
El Cajon, Calif.

PURCHASING

The BIG Difference in Pillow Block Bearings

Micro-Velvet BALLS

accurate to within
millionths of an inch.



Hoover Honed RACEWAYS

super smooth,
superbly finished.

...hoover quality!

The big advantage in Hoover pillow block bearings is superior quality. Featuring *Micro-Velvet* balls, accurate to within millionths of an inch, and *Hoover Honed* raceways, super smooth, superbly finished, these low-cost bearings perform smoothly and dependably. A cast housing of ductile material absorbs shock and vibration, assures long bearing life.

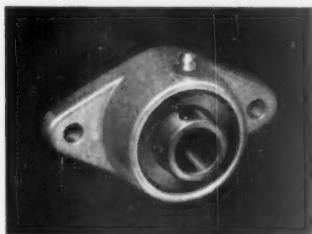
Other *Hoover Quality* features include rubber

lip-type seals and factory applied lube to simplify maintenance. Eccentric collar lock provides easy installation.

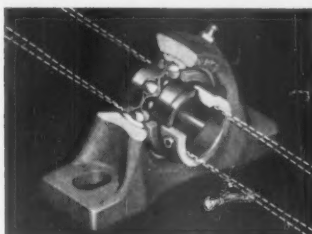
Known as the EDX series, these pillow blocks are recommended for moderate loads at normal speeds. They are available in shaft sizes from $\frac{1}{2}$ " to $1\frac{1}{16}$ ". For complete information see your Hoover bearing specialist listed in the yellow pages or return the coupon.

Micro-Velvet and *Hoover Honed* are Hoover Trademarks.

hoover PRODUCES A COMPLETE LINE OF PILLOW BLOCK AND FLANGE BEARINGS



Hoover FEDX series flanges, companion units to EDX pillow blocks, are designed for maximum strength and light weight.



Hoover SP and SPH series pillow blocks feature a rugged cast iron housing, automatic self-alignment and felt contact seals.



SF flange bearings, companion units to SP pillow blocks, are strong, durable and well proportioned.

Hoover

BALL AND BEARING COMPANY

5400 South State Road, Ann Arbor, Michigan

Zone Sales 8581 South Chicago Ave., Chicago 17, Illinois
Offices and 290 Lodi Street, Hackensack, New Jersey
Warehouses 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company
5400 South State Road, Ann Arbor, Michigan

PM-12

Please send me information on Hoover pillow block and flange bearings.

Name

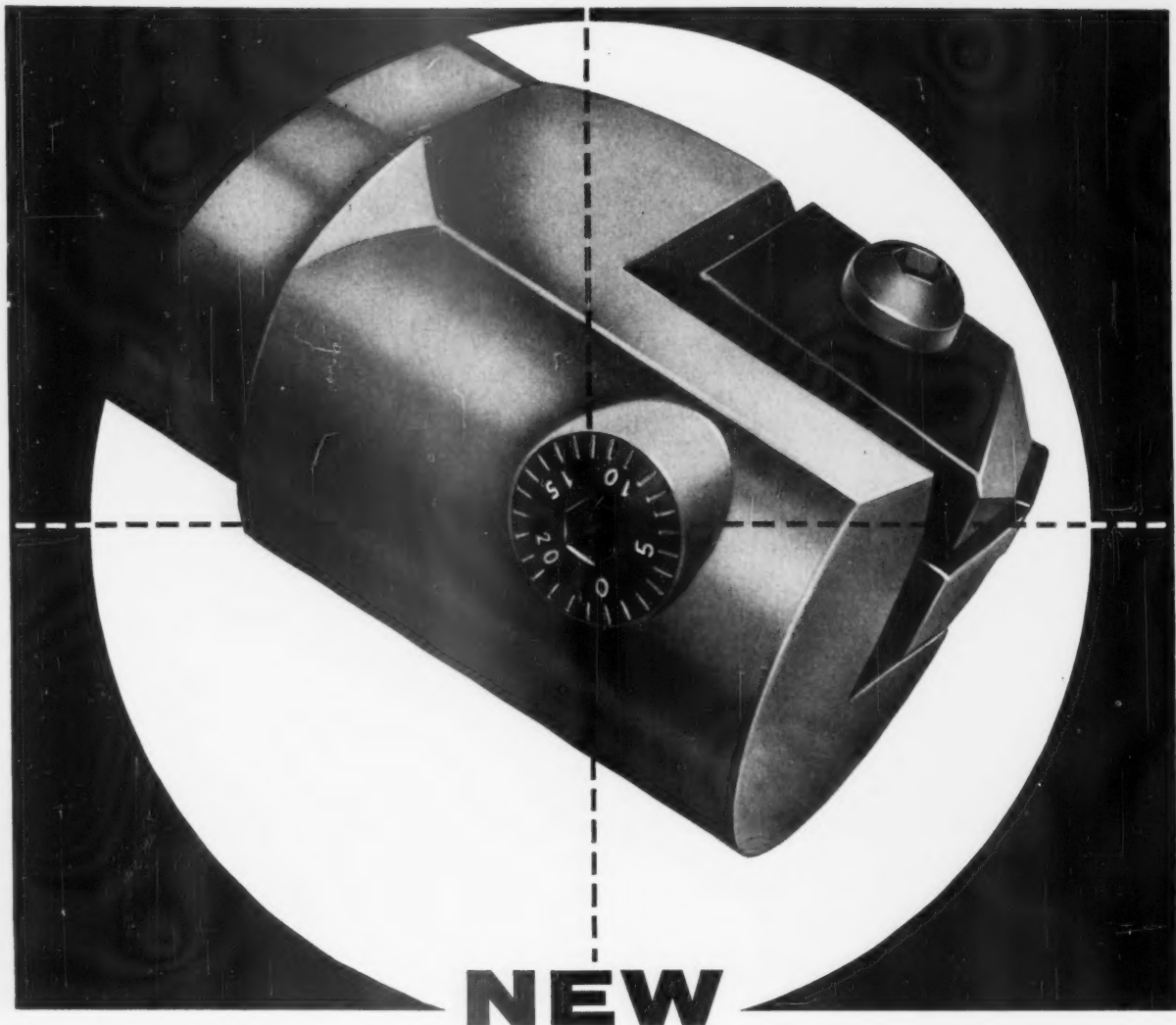
Title

Company

Address

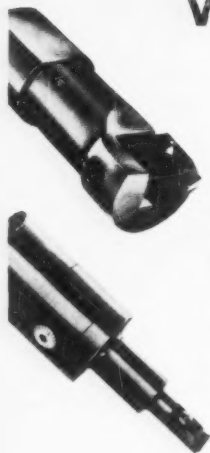
City Zone State

For More Facts Write No. 183 on Information Card—Last Page



NEW

V-R Boring Bars are micro-adjustable for controlled diameter adjustment



Here's a unique concept in boring bar design that combines a micro-adjustable feature with the economies of throw-away inserts. Fast, simple and positive diameter adjustment in increments of 0.001" save your set-up and production time — bring you greater boring accuracy. V-R carbide "throw-aways" slash tool costs — eliminate grinding, reduce tool inventory and make tool changes easy and fast. A built-in, adjustable chip breaker adapts tools to light, medium or heavy cuts.

V-R Boring Bars replace conventional boring tools, reamers, single-point tools

and multiple-point boring heads on hundreds of applications. They are used on automatic or hand screw machines, boring mills, turret lathes and multiple-spindle bar machines. Micro-adjustable styles are available for small hole finishing, shallow boring and deep hole boring. Non-adjustable styles with throw-away inserts are also available.

Ask your V-R man how you can profit from V-R micro-adjustable Boring Bars or write for Catalog 6105 today.
VASCOLOY-RAMET CORPORATION
894 Market Street, Waukegan, Illinois



FIRST CHOICE of more and more plants



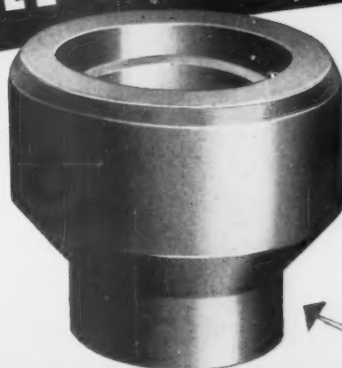
C-870

Another* Exclusive Vogt Product



THREADED
TYPE

FORGED STEEL WELD COUPLETS

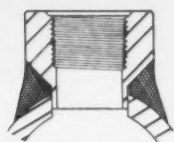


SOCKET WELD TYPE

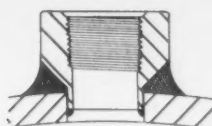
The Vogt Weld Couplet is an easy-to-install fitting for branch connections from pipe, vessels or tanks. It replaces more-difficult-to-install welding bosses, couplings and the type of fittings requiring trimming or matching to fit contour of vessel or pipe.



Here's How the Exclusive VOGT "WELD RING" Saves Time and Money!



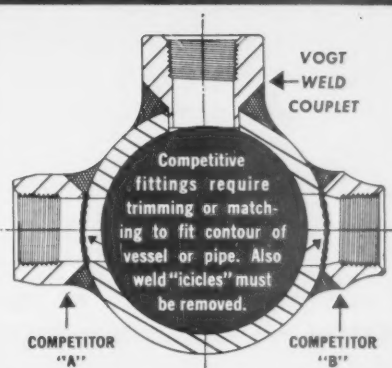
Small Diameter Pipe



Large Diameter Vessel

Vogt Weld Couplets adapt to any pipe or vessel curvature by simply adjusting the height position of the couplet when welding. This characteristic means easy installation, positive positioning and alignment, a stronger weld without distortion, and no inside "icicles" of welding material.

Couplets are available in carbon steel, conforming to A.S.T.M. specifications. Other materials can be supplied on special order.



Vogt

VALVES, FITTINGS FLANGES & UNIONS

Write for Folder SWC-1 to Dept. 24A-FPM.

For Direct Long Distance
to Louisville dial:
502 ME 4-9411

HENRY VOGT MACHINE CO., P. O. Box 1918, Louisville 1, Kentucky

SALES OFFICES: Camden, N. J., Charleston, W. Va., Chicago, Cleveland,
Dallas, Los Angeles, New Orleans, New York, San Francisco, Seattle, St. Louis

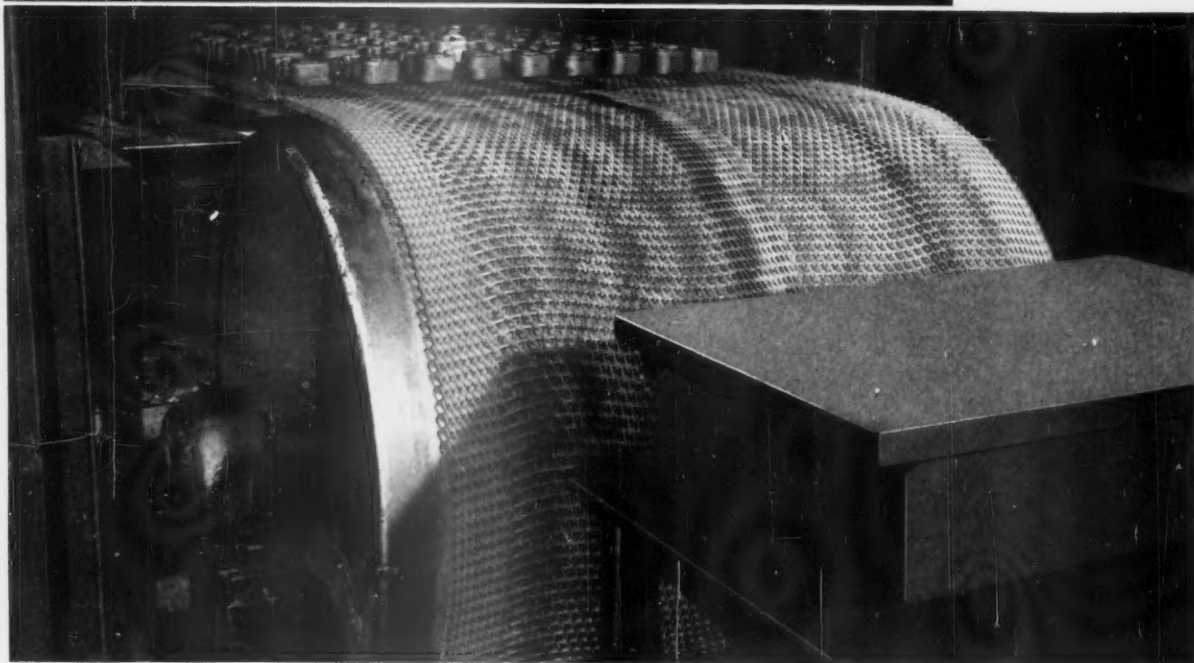
For More Facts Write No. 185 on Information Card—Last Page

See our complete
line in Catalog F-10



DECEMBER 18, 1961

Cambridge Type-314 Stainless Metal-Mesh Belt



SOLVES CHANGING TEMPERATURE, CHANGING LOAD PROBLEMS

Looking for a low-cost, all-purpose belt? Then look closely at a Cambridge Type-314 Stainless Steel Metal-Mesh Belt. It has the outstanding ability to give long life under widely varying load conditions in both high and medium temperatures. You can use it in 2100° F. to 1850° F. temperatures and get excellent strength characteristics and oxidation resistance. In the 1850° F. to 1600° F. range, it shows superior resistance to green rot. In the 1600° F. to 900° F. range, it shows little or no carbide precipitation.

To meet specific requirements, there is a complete line of Cambridge Belts available in special and

standard metals and alloys—custom built in any weave to insure the most efficient processing.

Experienced Cambridge Field Engineers—experts in their field—are available to discuss your needs and help you select the belt best suited to your operations. Or, they can offer you sound advice on the installation, operation and maintenance of your Cambridge Belts. Talk to your Cambridge man soon. He's listed in the Yellow Pages under "Belting, Mechanical". Or, write for free 130-page reference manual.



The Cambridge Wire Cloth Co.

DEPARTMENT R • CAMBRIDGE 12, MARYLAND

Manufacturers of Metal-Mesh Conveyor Belts, Flat Wire Conveyor Belts,
Wire Cloth, Wire Cloth Fabrications, Gripper® Metal-Mesh Slings

For More Facts Write No. 186 on Information Card—Last Page



PROBLEM: How to wrap a package so it will take rough handling.

SOLUTION: International Paper's Gator-Hide[®] Extensible Kraft has a built-in stretch that withstands sudden shocks.

THESE PACKAGES are wrapped with International Paper's rugged Gator-Hide Extensible Kraft. You can drop them, throw them, bounce them. This wrap can take it!

Gator-Hide Extensible Kraft actually *stretches* to absorb sudden shocks without ripping. This makes it the ideal wrap for any product that must withstand rough handling. Magazine publishers, for example, have found that Gator-Hide Extensible Kraft sharply reduces their post office rejection rate.

International Paper pioneered the introduction of white, black and golden brown extensible kraft. Now, there are many special colors available. And Gator-Hide Extensible Kraft is supplied in either sheet or roll form, with such features as electric eye cut-off markings.

Gator-Hide Extensible is also a remarkably uniform kraft paper. This makes it ideal for superior flexographic printing. Platemakers, inkmen and pressmen in our Southern Kraft Division have been extensively trained in

this process. Using modern 3-color flexographic presses, they'll brilliantly print your sales message. Give you wrappers that *promote* as they protect.

In paper and paperboard, International Paper's sales and technical staff provides you with packaging that's designed *from the beginning* to suit *your* product and solve *your* problems.

Call any of our seventeen Southern Kraft offices. Or contact your paper merchant—he's probably been doing business with us for years.



INTERNATIONAL PAPER

NEW YORK 17, N. Y.

Manufacturers of papers for magazines, books, newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • labels • folding cartons • milk containers • shipping containers • multicolored bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials

Purchasing People In The News

The Chemstrand Corp., Decatur, Alabama, has named **Mr. James A. Dawes** buyer in the plant purchasing department. Formerly senior clerk in the office services department, he is a veteran of six years service with Chemstrand. Since joining the company in September, 1955, he has worked in the manufacturing area and as a guard in the plant protection department.

Mr. Dawes served with the U. S. Army from 1951 to 1953. A native of Pulaski, he received a diploma in office management from the International Correspondence School in 1960.

The Gevaert Company of America, Inc., New York, N. Y., has announced that **Mr. Eugene B. Miller** has been named purchasing agent of the organization. He will be responsible for the purchasing



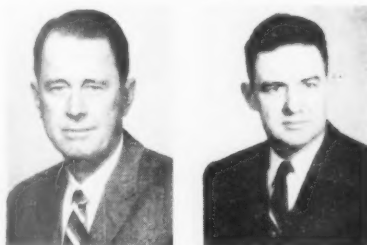
E. B. Miller

of all office equipment and supplies, packaging materials and chemicals for Gevaert throughout the United States.

Organizational changes of the purchasing functions in **Humble Oil & Refining Company's Southwest Region** and at the company's **Baytown Refinery** are now completed.

Mr. John C. Calkins, who rose

to assistant purchasing agent within the old Humble Company, is now purchasing agent for Humble's Southwest Region, and **Mr.**



J. C. Calkins

J. G. Traxler

John G. Traxler, who has been serving as assistant superintendent of the Maintenance & Construction Division at Baytown Refinery, has become purchasing agent there.

Mr. Calkins joined Humble in 1933 after attending Rice University and The University of Texas. He is a director of the Houston Purchasing Agents Association. Mr. Traxler holds a bachelor's degree in electrical engineering and a master's degree in engineering from the University of Texas. He joined Humble in 1939.

In making the announcement Humble pointed out that contacts and transactions dealing with procurement functions now being made in Houston for the Baytown Refinery and for Humble's Houston Special Products Plant will in the future be made at Baytown.

Two executives of **Pontiac Motor Division, Pontiac, Mich.**, have been named to top-level positions.

Mr. Martin F. Rummel has been elevated to the new position of director of purchasing and production control. He has been director of purchasing since 1946. Reporting to Mr. Rummel will be **Mr. Homer C. Jackson**, named director of purchasing after serving as assistant purchasing agent since 1950.

Mr. Rummel joined the Pontiac organization upon his graduation from Michigan State College in 1927. Progressing swift-

ly from manufacturing duties to purchasing, he became a buyer in 1932 and assistant purchasing agent in 1941. Starting with Pontiac in 1926, Mr. Jackson progressed through various jobs of responsibility, including material control, scheduling and buyer.

Laboratory for Electronics Inc., Boston, Mass., has recently announced two appointments to its purchasing group. **Mr. J. Robert Benny** becomes purchasing manager, in charge of all general purchasing activities. He replaces **Mr. H. Nilson**.

Mr. George A. Murch has joined the group as subcontract manager in charge of all subcontract purchasing activities for the department.

Hyster Company, Portland, Ore., has announced the appointment of **Mr. L. J. Levisse** as director of purchases, a newly established position. He will assist in the direction and administration



L. J. Levisse

of overall company purchasing activities, domestically and overseas.

Mr. Levisse has held line and staff purchasing responsibilities, and brings to his position more than 25 years of purchasing experience.



DC's got what it takes to ship it!

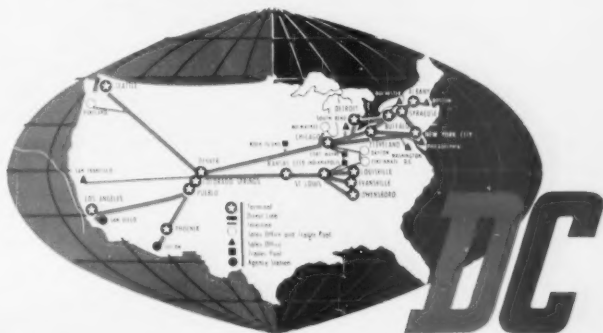
If moving *your* freight calls for specialized equipment, DC's got it: the right kind, in the right place, at the right time! DC's "top drawer" \$18 million fleet includes four basic over-the-road trailers... the type and number of pickup and delivery units required in

each terminal city. Specialized equipment is one key to safe, speedy handling... and DC's got it!

DENVER CHICAGO TRUCKING CO., INC.

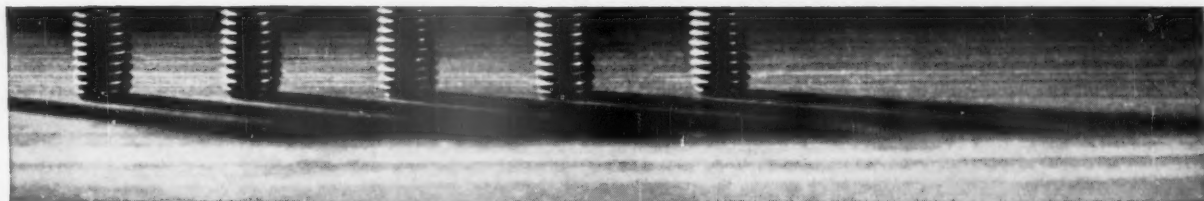


the **ONLY**
direct coast-to-coast
carrier!





Heads for \$50 saving per unit



Fastener survey of blower units by RB&W points out where use of standard hex screws cuts costs, but not quality

In making a survey of a well-known manufacturer's fastening operations, the RB&W man found that alloy socket head screws were used extensively in large blower units.

But he found no genuine engineering need—the alloy's strength wasn't being utilized. And he found no production need—there was no tight spacing situation that required internal wrenching. Nor was there even an *appearance* need—screws weren't being installed in countersunk holes for a flush fit.

So there was no purchasing need, either. Why pay the premium cost

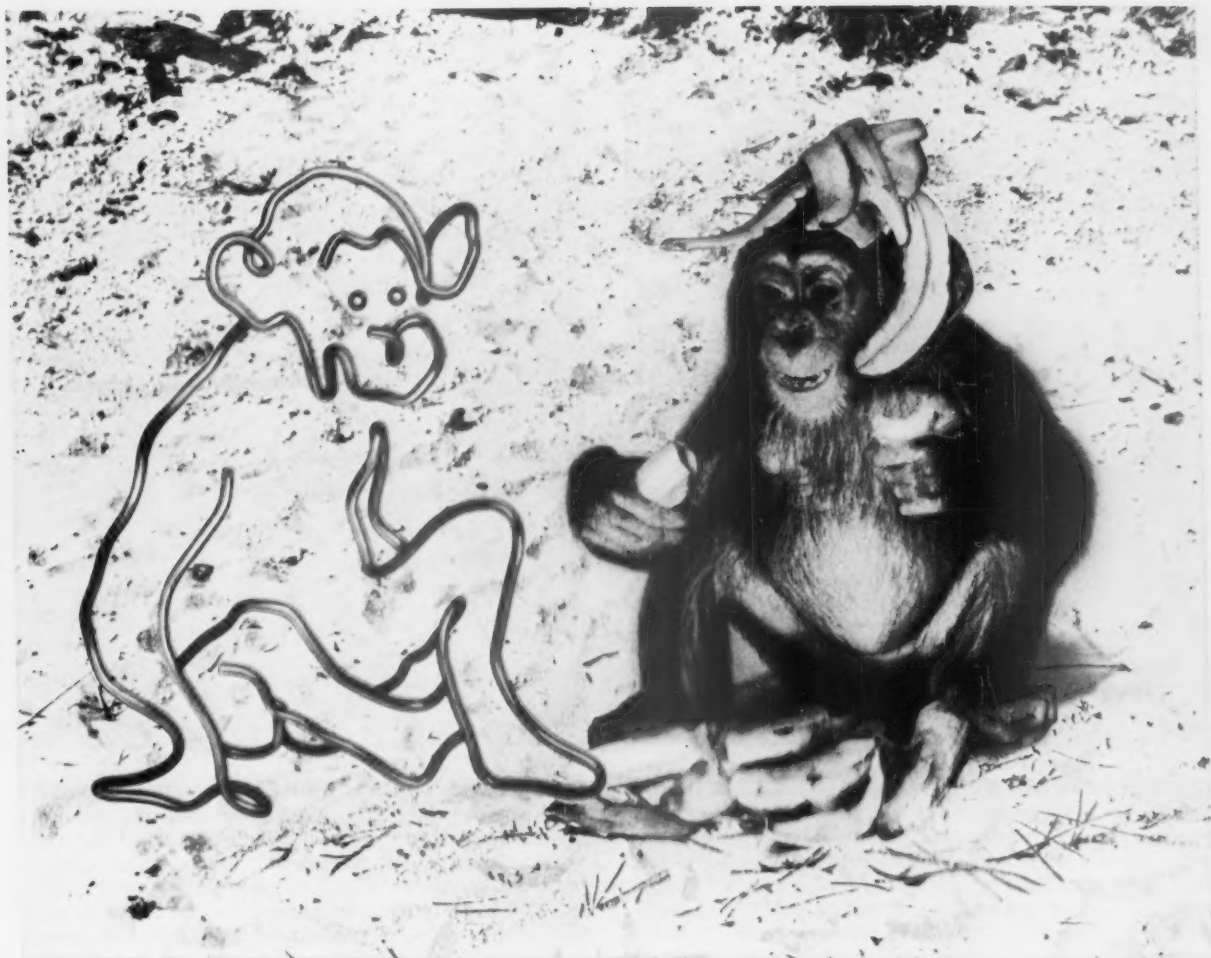
for alloy fasteners? He recommended switching to *standard* high strength hex screws. The savings in fasteners per blower: 50 dollars. That's 50 dollars added to unit *profit* with no increase in price.

An RB&W Fastener Expert is no better than your engineers. He simply knows *what* to look for. Why not let him search for savings with one of *your* engineers? Maybe you're doing the best possible; but unless you're sure you're not wasting fastener dollars, it pays to consult Russell, Burdsall & Ward Bolt and Nut Company, Port Chester, N. Y.



Plants at: Port Chester, N. Y.; Coraopolis, Pa.; Rock Falls, Ill.; Los Angeles, Calif. **Sales office and warehouse at:** San Francisco, Calif. **Sales offices at:** Ardmore (Phila.), Pa.; Pittsburgh; Detroit; Chicago. **Sales agents at:** Cleveland; Milwaukee; New Orleans; Denver; Fargo. **Distributors coast to coast.**

For More Facts Write No. 189 on Information Card—Last Page

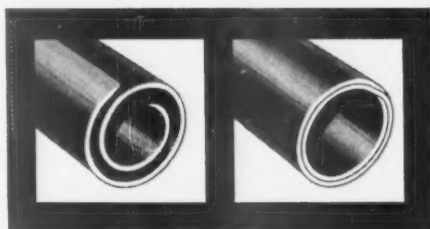


Bundy can mass-fabricate practically anything

At lower cost! And of higher quality! Bundy engineers and designers are mass-fabrication specialists. They *know* how to employ exclusive, cost-cutting techniques in the fabrication of even the most complex tubing shapes. And the product itself—Bundyweld® steel tubing—has long been the standard of the automotive and refrigeration industries. It meets Government Specifications MIL-T-3520, Type

III; ASTM 254; and SAE specifications. So, whatever the shape, for fast delivery of the finest steel tubing, call, write, wire: Bundy Tubing Company, Detroit 14, Michigan.

* * *



Bundyweld, double-walled from a single copper-plated steel strip, is metallurgically bonded through 360° of wall contact. It is lightweight, uniformly smooth and easily fabricated . . . has remarkably high bursting and fatigue strength. Sizes up to 5/8" O.D.

BUNDY® TUBING COMPANY

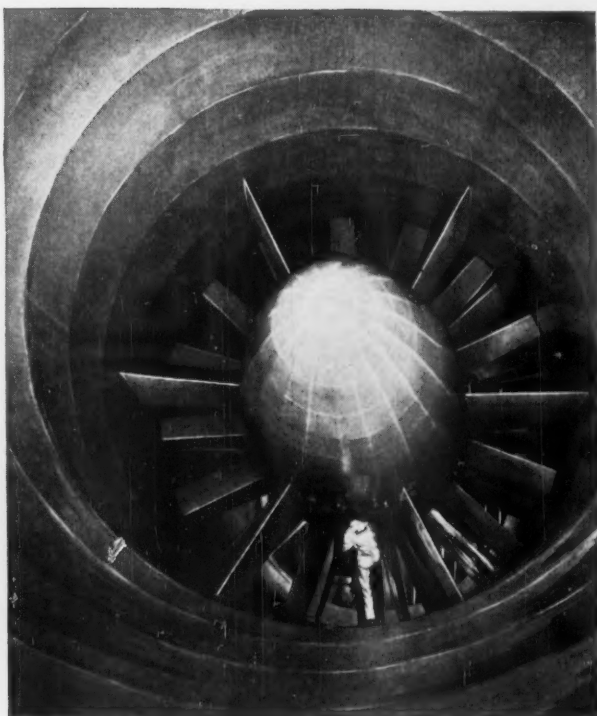
DETROIT 14, MICH. • WINCHESTER, KY. • HOMETOWN, PA.

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING. AFFILIATED PLANTS IN AUSTRALIA, BRAZIL, ENGLAND, FRANCE, GERMANY, ITALY, JAPAN.

For More Facts Write No. 190 on Information Card—Last Page



SUN CUTTING OIL SAVES SIX WAYS. A famous typewriter manufacturer switched to Sunicut 11 Cutting Oil, recommended for its specific cooling and cutting properties. Results included better finishes of typewriter parts, cooler cut-offs, faster production, improved tool life, less smoking... and savings on oil cost of \$6300 per year! What problems with cutting oils are you trying to meet? Staining? "Black oil blindness"? Chipping of chasers? Limited speeds and feeds? Too many grades? Ask your Sunoco representative. He'll come up with a job-fitted transparent oil, emulsifying oil, or chemical coolant that is *right* for you... from a full line of quality cutting fluids.



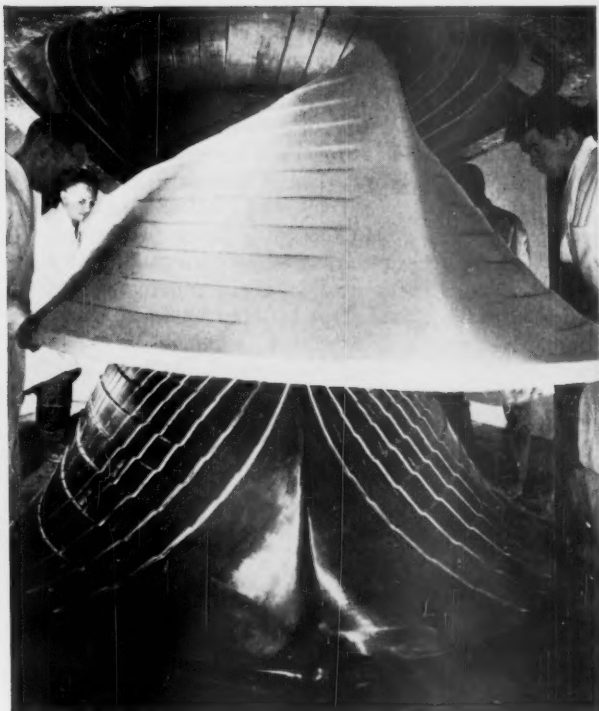
SWITCH TO A SUNOCO GREASE STOPS TROUBLE. Oil was being used to lubricate the control mechanisms for the system of delicately balanced propellers in this huge transonic wind tunnel. But oil leaked... caused unbalance, violent vibration, gear and bearing failures. Sun 1897 Grease was recommended... leakage stopped! Sun 1897 is only *one* of the vast line of Sunoco greases. Sunoco has water-resistant greases with excellent pumpability; tacky greases that won't drip, throw off, squeeze out; greases for heavy-duty pressure systems; greases that resist heat, rust; multipurpose greases, and extreme-pressure greases... *just to name a few!*

How to find your best value

Finding your best value in a petroleum product can be as easy as ticking off these three questions: Does the product have the *quality* we need to keep our operation rolling? Will it be *job-fitted* by men who know the score? Will it be backed by *service* we can count on? Better yet, put these questions directly to your Sunoco representative... and try any one of the Sunoco products he recommends for your needs! The examples above give some idea of the value you will find in Sunoco quality!

SUN OIL COMPANY • PHILADELPHIA 3, PA.
In Canada: Sun Oil Company Limited, Toronto and Montreal





HYDRAULIC OIL, SUNOCO SERVICE CUT LOSS. A contaminated hydraulic oil had stymied molding operations on fiber glass boat hulls, like the one shown above. The Sunoco representative showed how to salvage the oil, saving a sizeable sum through his service alone. Now, a job-fitted Solnus oil is keeping production rolling. There are many more job-fitted hydraulic oils in the Sunoco line . . . oils to help your people get around problems with high temperatures, excessive contamination, high makeup . . . oils to clean sludged systems, reduce fire hazards, costly corrosion . . . oils to cut leakage, end waste and mess . . . oils for systems in the pink of condition.



SOLNUS OIL CUT MAINTENANCE 50%. A Pennsylvania manufacturer compared performance of his regular compressor oil with Sun Solnus in two eight-month test periods. Solnus 300 gave a savings of 50% on all valve maintenance. Dollar savings ran a tidy \$915 per year. What are you looking for in a compressor oil? An oil to reduce explosion hazards? Cut sludge formation and start-up problems? Eliminate cylinder wall scoring? Reduce inner cooler clogging, fouling? An oil to give you more efficient use of compressor power? Your nearest Sun representative is listed below. Call him for help in getting the one Sunoco job-fitted oil you need to end *your* problems.

in petroleum products

Call your nearest Sunoco office today. Get fast help . . . real economy with Sun quality

CONNECTICUT

Bridgeport . . . FForest 6-4351
E. Hartford . . . BUTler 9-0291

DISTRICT OF COLUMBIA

Washington . . . NAtional 8-3266

FLORIDA

Fort Lauderdale . . . JACkson 3-4386
Jacksonville . . . ELgin 3-0941
Miami . . . JACkson 3-4386
Tampa . . . TAMpa 2-2668

GEORGIA

Atlanta . . . MURray 8-3583

ILLINOIS

Chicago . . . EUclid 3-4100

INDIANA

Huntington . . . HUNtington 4010
Indianapolis . . . WAlnut 4-4513

KENTUCKY

Louisville . . . SPRing 6-4681

MAINE

Portland . . . SPruce 3-6467
SPruce 3-1555

MARYLAND

Baltimore . . . PLaza 2-8642

MASSACHUSETTS

Boston . . . ATLantic 4-4500
Worcester . . . PLessant 6-7139

MICHIGAN

Detroit . . . WOODward 1-7240
Grand Rapids . . . CHerry 5-9194
Hamtramck . . . TRinity 2-8100
Owosso . . . SARatoga 3-5101
River Rouge . . . VInewood 3-4200

MISSOURI

St. Louis . . . PRospect 1-9364

NEW HAMPSHIRE

Manchester . . . NAtional 5-9696

NEW JERSEY

Hackensack . . . HUBbard 7-6780
Newark . . . MITchell 3-8300
Paulsboro . . . HAZel 3-2400
South Amboy . . . PARKway 1-2300

NEW YORK

Albany . . . HOBart 5-1551
Binghamton . . . SWarthenmore 7-2334
Brooklyn . . . TWining 1-3100
Buffalo . . . TR 7-3300
Long Island City . . . STillwell 6-1230
Newburgh . . . JOhn 1-3040
New York City . . . LEXington 2-9200
Oceanside . . . ROCKville Center 4-5300
Pelham Manor . . . PELham 8-3040
Rochester . . . FAirview 8-5430
Syracuse . . . HARrison 2-0296

NORTH CAROLINA

Greensboro . . . BRoadway 4-7683

OHIO

Akron . . . BLackstone 3-7733
Cincinnati . . . WABash 1-5500
Cleveland . . . VULcan 3-6100
Columbus . . . BRoadway 9-9421
Dayton . . . BALdwin 6-1341
Toledo . . . OXFord 3-4461
Youngstown . . . SKYline 8-4581

PENNSYLVANIA

Allentown . . . HEMlock 4-9531
Beaver . . . SPruce 4-9440
Erie . . . TWInbrook 9-3131
Exeter . . . OLYmpic 4-6795
Greensburg . . . TEMple 7-4700
Harrisburg . . . JORDan 4-2000
Johnstown . . . JOhnstown 33-2111
Malvern . . . NIAgara 4-2740
Marcus Hook . . . HUBbard 5-1121
Philadelphia . . . KINGSley 6-1600
Pittsburgh . . . STerling 1-1252

RHODE ISLAND

Providence . . . HOPkins 1-8100

TEXAS

Beaumont . . . TERNal 8-6611
Dallas . . . RIVERSide 7-1611
Houston . . . CAPital 7-3317

VIRGINIA

Norfolk . . . KIMball 5-2421
Richmond . . . MILton 4-0783

WEST VIRGINIA

Huntington . . . GLadstone 3-1381
Wheeling . . . CRESTview 7-1122

CANADA

ONTARIO

Hamilton . . . JACkson 7-2903
London . . . GLadstone 1-4320
Ottawa . . . CENTral 5-9350
Toronto . . . EMPire 6-5861
Windsor . . . CLEARwater 6-6028

QUEBEC

Montreal . . . WELLington 5-2423

For More Facts Write No. 191 on Information Card—Last Page

FREE ON REQUEST



USEFUL
APPLICATION
DATA

Newest Features in Rotating Shaft Seals for Pumps, Tools, Appliances, etc.

Newly refined standard Victo-Seal designs are now available for surer, tighter sealing at moderate cost, of fluids and lubricants in mechanical assemblies of all kinds . . . pumps, tools, power units, transmissions, etc. . . and all appliances: washers, driers, disposers, refrigerators, etc.

For special needs, any standard Victo-Seal design can be readily adapted to your specifications.

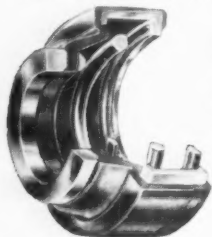
Let Victor help you keep aware of newest rotating shaft seal developments. Write for Victo-Seal brochure S-1443, or ask your Victor Field Engineer for a copy.

Victor Mfg. & Gasket Co., P.O. Box 1333, Chicago 90, Ill.—Canadian Plant: St. Thomas, Ontario.

TYPICAL VICTO-SEALS

TYPE 6

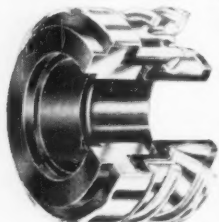
HIGH-FLEX, low-pressure bellows seal



Working Pressure:
0 to 10 PSI (Dependent on shaft size and projected diaphragm area)
Temperature:
+250° F
Speed:
1800 to 3600 RPM

TYPE 8

SELF-CONTAINED, heavy-duty rotating shaft seal



Working Pressure:
0 to 40 PSI Normal
100 PSI Maximum
Temperature:
+250° F (Higher with special rubber compounds)
Speed:
Up to 3600 RPM
(Higher speeds depending on pressure/temperature relation)



A VICTOR QUALITY PRODUCT . . . World's Leading Manufacturer of
GASKETS • OIL SEALS • PACKINGS • MECHANICAL SEALS

Write No. 192 on Information Card—Last Page

FOB—“filosofy of buying”

YOU JUST CAN'T keep the men who make the news out of the news. In the Nov. 20 issue, we told how Howard Ahl, versatile executive secretary-treasurer of N.A.P.A., walked off with the honors in a design contest sponsored by the European Federation of Purchasing. Now we have word of another Ahl first: Howard is referred to in the new, comprehensive Merriam-Webster International Dictionary, under the entry “old line.” Seems Howard used it in a speech in Springfield, Mass. a year or so ago, and the lexicographers considered it an excellent example of a term that has now become an acceptable part of the language. So Howard goes down in history as the first N.A.P.A. secretary and perhaps the first P.A. to have his name in a dictionary.

THE SOCIETY of American Value Engineers—contracted imaginatively to SAVE—is a new outfit chartered in Texas. It has started a very aggressive membership campaign, not the least intriguing aspect of which is the listing of the menu to be offered at some of its upcoming meetings.

Here, for example, is what SAVE said it would have to EAT at the November 8 meeting:

Roast beef, baked ham, hot baked potato, green peas, tossed green salad, potato salad, marinated whitefish, pineapple, fruit salad, marinated beef, Jello mold (how's that, again?), cole slaw, sliced cucumber, cherry or peach cobbler, coffee, rolls.

Kind of overpowering, even for Texas, but it's better to know than to wonder—as we have so often done as we set out for certain meetings—whether the main course tonight will be chopped steak a la Aqueduct or tough and tired turkey doused in grease.

SOME ITEMS of Special Significance for P.A.'s to Ponder: Joseph Stalin was once an editor. . . . The N. Y. World-Telegram & Sun recently listed a TV show as a re-run of Sean O'Casey's “Juno and the Paycheck”. . . . Sign on a huge truck rumbling through Manhattan—“Sofia Brothers — Intra-Global Moving”. . . . The New Frontier Nursery School has just opened in Oceanside, N. Y. . . . Monitor Systems Inc. public relations peo-



“Seeing 50 suppliers a day makes him edgy.”

PURCHASING

ple sent us a release in which they asked indulgence for breaking "the unwritten rule of never no letters with releases." . . . The Selective Gift Institute has established a "two-point criterion" to distinguish between remembrances and payola in business gift-giving: (1) The gift must be given primarily in appreciation, rather than in anticipation; (2) Must be of relatively modest value, in no case costing more than \$100. (Ed. note: Wholesale or retail?)

LAATEST EDITION of the off-beat house organ of the Rogers Corp., Rogers, Conn., "Here's More Rogers" (how often can you get your name mentioned in one sentence?), has a short and entertaining item entitled "Oh, A Purchasing Agent's Lot Is Not A Happy One." Even if you don't agree, the rest of the book is loaded with interesting items.

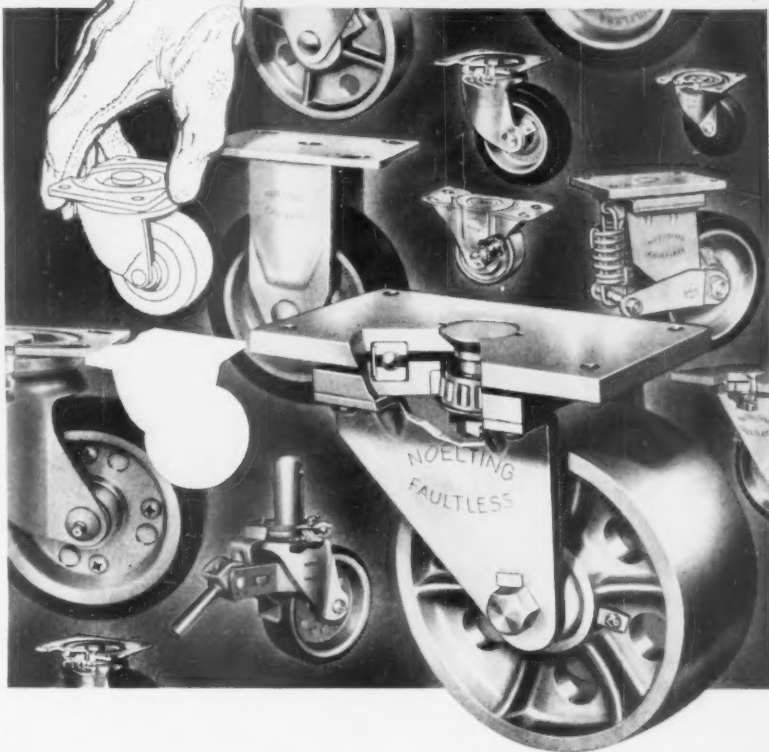
IN OUR September 11 issue we issued a whimsical challenge to all purchasing people to compose "marching songs" for use at local and regional N.A.P.A. meetings. James B. Poettgen of Beloit Eastern Corp., Downingtown, Pa. has taken us up on it and composed the following to the tune of the Army's famous field artillery march, "The Caissons Go Rolling Along:"

Here's a "Quote"
There's a "Quote"
Watch it! You may
miss the boat
And your profit goes
Right out the door!

Here's a Price
There's a Price
Look at each one
At least twice
Or your profit is
Dropping once more.

Now its check, Re-check
For the very best, By heck
Quality and service come first.
If you buy for less,
It may not be the best
And your "Buy" turns out
To be the worst.

the ONE Caster Source is **Faultless**



Faultless manufactures over 10,000 caster types, sizes, and varieties . . . casters for every conceivable purpose . . . *The Casters* to move your products easily, in quantity, economically! Faultless Casters are engineered and tested to roll smoothly and efficiently under any load from 15 lbs. to 15,000 lbs. per caster. And Faultless manufactures a complete selection of swivel, rigid, plate, and stem casters, plus a wide variety of special application casters. This complete selection from one manufacturer—Faultless Caster Corporation—includes *The Casters* to reduce materials handling costs and increase efficiency at your plant.

Your Faultless Industrial Distributor, or your nearby Faultless Sales Engineer can supply you with detailed information on the complete Faultless Caster line. Also, your Faultless Distributor maintains a substantial stock of Casters for immediate shipment.



NOELTING
Faultless Caster Corporation
EVANSVILLE 7, INDIANA

Branch Offices in principal cities of the U.S.; see the Yellow Pages of the telephone book under "Casters." Canada: Stratford, Ontario

For More Facts Write No. 193 on Information Card—Last Page

Versatility at work:
soft rubber tread
combines with
hard rubber core in
modern caster wheel



ACE

HARD RUBBER...

the original plastic is the most **VERSATILE**

■ Hard rubber is today's versatile engineering material;

versatility in three ways means the maximum in usability.

BLENDS Hard Rubber is not just "one" material, but a family of compounded materials, each blended to stress particular properties or end-service requirements. For example, while hard rubber is generally an electrical insulator, certain compounds are blended to be conductive.

FORMS AND SHAPES Hard Rubber is produced as molding compounds, extruded shapes for end use or for subsequent machining and finishing operations, extruded sheet for stamping and

punching, and calendered sheet for producing hand-wrapped parts. Production can suit your part, size of run, and facilities.

APPLICATION Hard Rubber — because of its economy, over-all balance of properties, and versatility — is fabricated into an amazing variety of parts. To name a few: huge parts for the chemical industry, water meter discs and pistons, combs, pipe bits, electrical parts, bowling balls, photography equipment, and thousands more.

■ Consult American Hard Rubber today. Tell us **what** and we'll tell you **how**.

INDUSTRIAL PRODUCTS SALES

American Hard Rubber Company

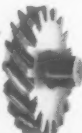
ACE ROAD, BUTLER, NEW JERSEY • Tel.: TE 8-1000



Chlorine
cell cover
of hard rubber
outwears former
cement cover



Water meter
impeller
will run for
10-20 years
under water



Bowling ball
has extremely
high wear
and impact
strengths



Molded
chair arm pad
stays clean
and attractive
through long life





OIL SEAL STOCK NUMBERS TELL YOU SHAFT SIZE IMMEDIATELY!



There's no catalog reaching and part number seeking when determining shaft sizes for C/R oil seals. You can tell from the stock number immediately.

Take the number on the illustrated box above: 13830—this C/R seal fits a shaft with a diameter of $1\frac{3}{8}$ " or 1.375". Easy, isn't it? C/R has the only numbering system in the industry that makes sense. Besides this, C/R part numbers are included on the inside of the tuck-in flap on the box for cross reference.

The C/R catalog is simple and easy to understand, too, making ordering and identifying a pleasure for a change. Here's a corner from the C/R catalog—showing all the valuable information (including shaft dia.) needed to get the correct C/R oil seal replacement. Be sure you have your C/R oil seal catalog.

SEAL OF PROVED PERFORMANCE



WHETHER
REACHING FOR
THE C/R
PACKAGE

OR REACHING FOR
THE C/R CATALOG



SECTION I

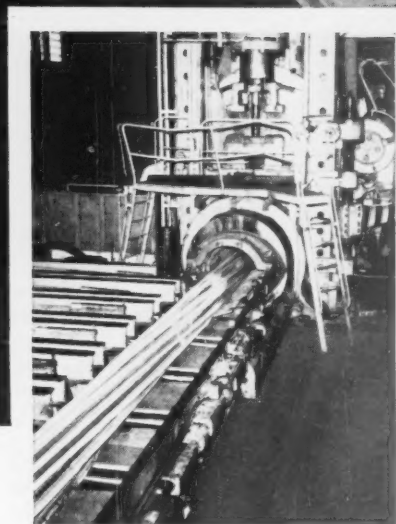
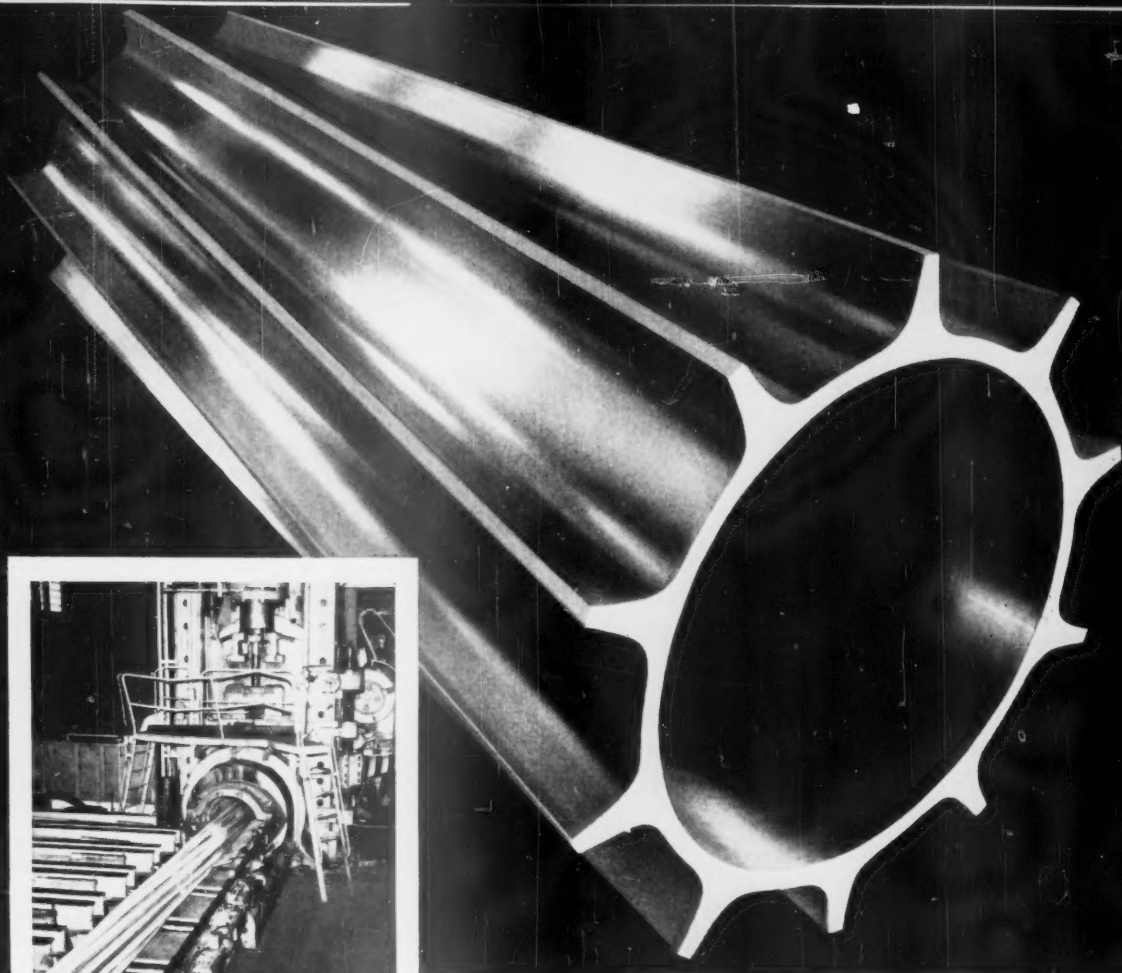
The numbers in each box are READ LEFT to RIGHT
To locate a seal for shaft diameter READ RIGHT to LEFT

Y	X	Shaft Dia.	Type A	Type B	Type C	Type D	Type E	Type F	Type G	Type H	Type I	Type J	Type K	Type L	Type M	Type N	Type O	Type P	Type Q	Type R	Type S	Type T	Type U	Type V	Type W	Type X	Type Y	Type Z
1	3	1.375	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830	13830
2	7	2.750	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870	27870
3	1	1.125	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810
4	5	2.187	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850	21850
5	9	3.250	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890	32890
6	3	1.625	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830	16830
7	7	2.687	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870	26870
8	1	1.187	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810	11810
9	5	2.250	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850	22850
0	9	3.375	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890	33890

Remember to keep downtime costs at a minimum...always replace—never re-use old oil seals. Your source for new C/R oil seals is your C/R Bearing Specialist—a valuable member of your engineering and maintenance teams.

CHICAGO RAWHIDE MANUFACTURING COMPANY
SERVICE SALES DIVISION • CHICAGO 22, ILLINOIS

In Canada: Chicago Rawhide Products Canada Limited, Brantford, Ontario • Export: Geon International Corp., Great Neck, New York



NEW TWIST IN EXTRUDING ALUMINUM...

giant press produces 48-foot
rotor with spiral vanes,
eliminates welding

This big aluminum rotor is extruded with spiralled, integral vanes on a 13,200-ton press at Dow's Madison (Illinois) Plant. Substituting this extrusion for a weldment in Salina Manufacturing Company's "Blendvane" feeders not only cut production time and costs, but improved the unit's feeding action!

Using extruded rotors, Salina has eliminated the time and cost of welding on straight bar stock vanes. Spiral-vane design (not practical with welded vanes) produces a more even feed of the material being transferred.

IF YOU USE EXTRUSIONS, or weldments, it may be possible to extrude a better, lower-cost part than you are now using. Dow's experience and full range of extrusion equipment—including presses ranging from 1700 to 13,200 ton capacity—combine to produce parts in a variety of alloys and designs.

Conventional shapes, unusual shapes . . . see Dow for *both*. You'll find a combination of extrusion quality and economy that can make your profit picture brighter. For more information, write THE DOW METAL PRODUCTS COMPANY, Midland, Michigan, Merchandising Department 1115EE12-18.



THE DOW METAL PRODUCTS COMPANY
Division of The Dow Chemical Company

For More Facts Write No. 196 on Information Card—Last Page

Calendar of Coming Events

DECEMBER						
S	M	T	W	T	F	S
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JANUARY						
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14	15	16	17	18	19	20
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28	29	30	31			

FEBRUARY						
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25	26	27	28			

MARCH						
S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Jan. 8-12. Society of Automotive Engineers: Automotive Engineering Congress and Exposition, Cobo Hall, Detroit, Mich.

Jan. 9-11. Eighth National Symposium on Reliability and Quality Control, Statler Hilton Hotel, Washington, D.C.

Jan. 15-17. American Management Association: Seminar on "Traffic and Purchasing," Astor Hotel, New York.

Jan. 22-24. American Management Association: Seminars on "Purchasing Research" and "Purchasing Performance," Astor Hotel, New York.

Jan. 22-25. National Plant & Engineering Show, Convention Hall, Philadelphia, Pa.

Jan. 29-Feb. 2. American Institute of Electrical Engineers: Winter General Meeting and 1962 Electrical Engineering Exposition, New York Coliseum, New York.

Jan. 30-Feb. 2. Society of Plastics Engineers: 18th Annual Technical Conference, Penn-Sheraton Hotel, Pittsburgh, Pa.

Feb. 4-7. Institute of Surplus Dealers: Annual Convention and 17th Trade Show, New York Trade Show Building, New York, N. Y.

Feb. 5-7 and March 14-16 (Multiple Unit Seminar). American Management Association: Seminar on "Advanced Purchasing," Hotel Astor, New York, N. Y.

Feb. 6-8. The Society of the Plastics Industry Inc.: 17th Reinforced Plastics Div. Conference, Edgewater Beach Hotel, Chicago, Ill.

Feb. 12-14. American Management Association: Seminar on "Technical Purchasing," Hotel Astor, New York, N. Y.

Feb. 19-23. American Management Association: Seminar on "Profit Center Management," A.M.A. Academy, Saranac Lake, N. Y.

Feb. 26-28. American Management Association: Seminar on "Purchasing Management," Hotel Astor, New York, N. Y.

March 13-14. Manufacturing Chemists' Association: 1962 Symposium on Packaging of Chemical Products, St. Louis, Mo.

March 19-21. National Electric Manufacturers' Association: 2nd National Electric Comfort Heating Exposition and Symposium, Hotel Sherman, Chicago, Ill.

SUBSCRIPTION CORRESPONDENCE AND CHANGE OF ADDRESS: Write to Circulation Department, PURCHASING Magazine, 205 East 42nd Street, New York 17, N. Y. Please give title and company affiliation in all correspondence. Notify us promptly of any change of address. Be sure to give old as well as new address; include postal zone number, and new company name and title. Enclose address label from a recent issue, if possible. Since mailing labels are addressed in advance, please allow 5 weeks for change to become effective.

THE 52100 HOUSE

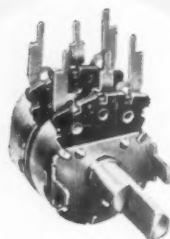
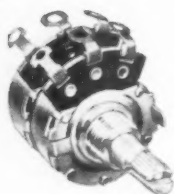
INDUCTION • CONSUMABLE • LEADED

PETERSON STEELS, INC.

Union, N. J. • Wethersfield, Conn.
Detroit, Mich. • Melrose Park, Ill.

Write No. 197 on Information Card-Last Page

An 8-Fold Improvement In Stereo Controls



Here's the kind of variable resistor performance that pays off in greater circuit design freedom . . . in continued customer satisfaction. Thanks to their new high stability SURETRAK* elements, these new Stackpole single-shaft dual controls stay within initially close tolerances throughout years of use or disuse — and with minimum derating.

To learn more about this basic advance in variable resistors for stereo, ask your local Stackpole sales engineer about Type LST (bushing mount) or Type LST-T (twist-tab mount), or write: Electronic Components Div., Stackpole Carbon Co., St. Marys, Pa.

1. High Stability SURETRAK* Elements — the first inherently stable carbon composition elements. Less than 3% resistance change from 20°C to 105°C . . . less than 7% change under 95% RH for 240 hours at 40°C . . . negligible change with age and mechanical wear. Excellent load life at 70°C.

2. Controlled Characteristics assure that whatever resistance changes do occur will be of similar magnitude and direction in both front and rear SURETRAK elements.

3. Automatic Element Matching for maximum uniformity between front and rear elements.

4. Zero Backlash between shaft and both sections.

5. Precise Mechanical Assembly assures uniform electrical and mechanical performance.

6. Velvety Smooth "Feel" available if desired for professional quality stereo equipment.

7. Tailored Attenuation — Linear over all or only a portion of the attenuation curve as needed.

8. Precision to Fit Any Budget — Degree of tracking limited only by price considerations . . . as close as ½ db tracking now possible.

*Trademark

STACKPOLE VARIABLE composition RESISTORS

COLDITE 70+® FIXED COMPOSITION RESISTORS • SLIDE AND SNAP SWITCHES • CERAMAG® FERRITE CORES • FIXED COMPOSITION CAPACITORS • CERAMAGNET® CERAMIC MAGNETS • BRUSHES FOR ALL ROTATING ELECTRICAL EQUIPMENT • ELECTRICAL CONTACTS • GRAPHITE BEARINGS, SEAL RINGS, ANODES • HUNDREDS OF RELATED CARBON AND GRAPHITE PRODUCTS

For More Facts Write No. 198 on Information Card—Last Page



A LETTER FROM THE PUBLISHER

Purchasing's New Responsibilities

AT THE START of this year, PURCHASING Magazine began an advertising campaign in leading business publications to impress top management with the progress and potential of the purchasing function. One of our ads in the *Wall Street Journal* reads:

"The Sixties may well go down in business history as the decade of the purchasing revolution. Not since advancing technology boosted the role of the design engineer in the Forties has an industrial function come into its own with such impact."

Now, with the first year of the Sixties ending, we're more than ever convinced that our forecast is sound. Purchasing is moving ahead on many fronts. Having proved itself a profit-maker in company after company, it is respected and depended upon by other departments. It's carefully cultivated by salesmen, and recognized by management as equal in importance to any other function in the business.

With recognition has come new responsibility. Purchasing executives are realizing that they must prepare themselves now for a job that is daily growing bigger and more important. The fever of activity in purchasing education, particularly in the National Association of Purchasing Agents, is evidence of how seriously they take the challenge.

We have been contributing to purchasing's professional development for more than four decades. And our plans to improve and enlarge that contribution in the promising decade ahead are already being carried out.

Our editors' reporting and analysis of the most important developments in purchasing—e.g., materials management, value analysis-standardization, linear programming, etc.—have been more extensive and comprehensive than ever. We now feature editorial coverage from coast-to-coast, and regular

reports from correspondents in important overseas markets. Our editorial staff includes experts in every aspect of purchasing and materials management, including traffic. Recognized authorities in purchasing and related fields prepare the informative articles and studies you see regularly in these pages.

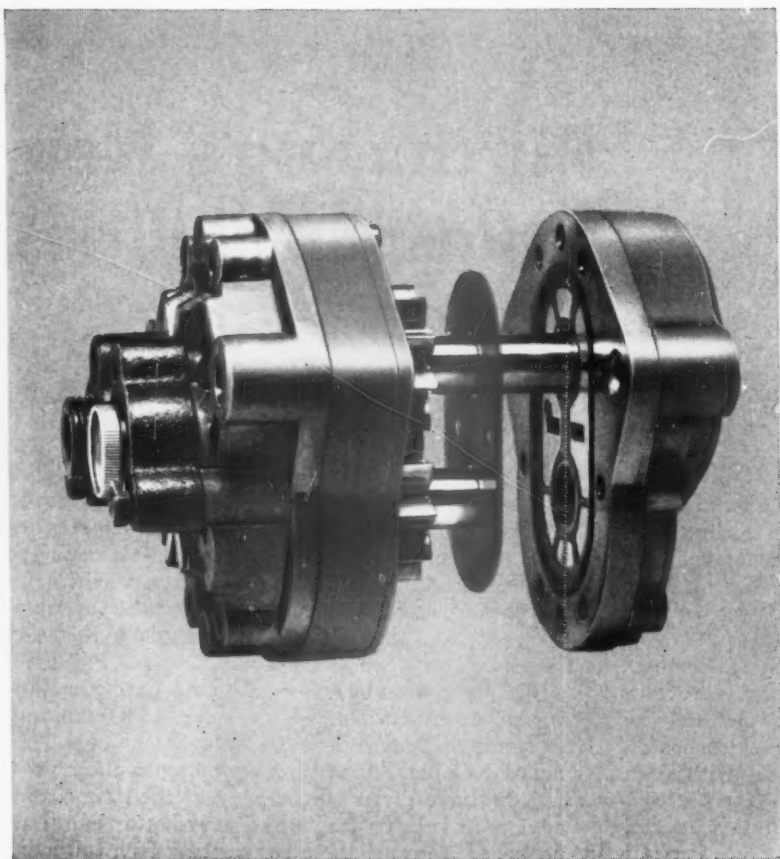
We are particularly proud of the part our Editorial Advisory Board has played in making PURCHASING Magazine more valuable to you. The board members, already outstanding in their profession, have given unstintingly of their time and advice, to help us fashion an ever-better editorial package. Many of their suggestions have already been translated into important feature articles, and more are on the way.

Our efforts on behalf of purchasing are not limited, however, to improving the content and appearance of the magazine. We plan to continue to sell management on purchasing as a profit-making function in advertisements that will appear in the *Wall Street Journal* and the *Harvard Business Review*. Response to our first series of ads has been most favorable.

With progressive purchasing executives everywhere, we look forward enthusiastically to the challenges and promises of the future.

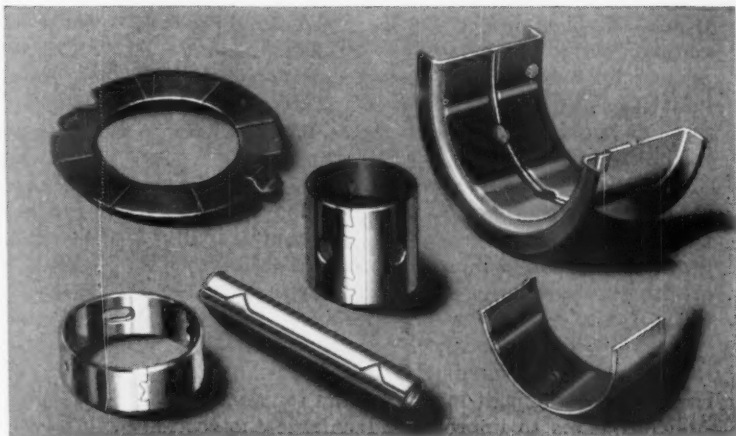
PUBLISHER/PURCHASING MAGAZINE

F-M WEAR PLATE "RIDES HERD" ON TURBULENT PRESSURE



IN CESSNA'S NEW HYDRAULIC PUMP LINE, F-M WEAR PLATE DIAPHRAGMS KEEP FLUIDS IN LINE to deliver pressures up to 2000 psi for aircraft, farm and construction equipment, many other hydraulic applications. These wear plate diaphragms maintain positive contact with gears to assure high, uniform pressure. To provide a bearing surface for this job, Federal-Mogul applies a high-density bronze to steel by a special sintering process. F-M high-density bronze prevents fluid absorption, and it affords good lubricity, needed because some hydraulic fluids are poor lubricants. To further prevent the escape of hydraulic fluid, these F-M diaphragms are manufactured for a snug, close-tolerance fit in the pump housing.

THE COMPLETE LINE of products from Federal-Mogul Division includes sleeve bearings, bushings, spacers, thrust washers, as well as wear plates. Through the years, F-M has amassed a wealth of knowledge and experience . . . from constant research, from solving bearing design problems for all kinds of products. Our engineers are ready to put this know-how to work and tailor bearing products to your requirements . . . with top performance assured.



A DESIGN GUIDE provides valuable engineering data for designers on F-M thrust washers as well as wear plates. Also available is literature on sleeve bearings, bushings and spacers. For your copies, write Federal-Mogul Division, Federal-Mogul-Bower Bearings, Inc., 11077 Shoemaker, Detroit 13, Michigan.

FEDERAL-MOGUL

sleeve bearings
bushings spacers
thrust washers

DIVISION OF
**FEDERAL-MOGUL-BOWER
BEARINGS, INC.**

For More Facts Write No. 199 on Information Card—Last Page

Purchasing Pointers

WHO DOES WHAT IN PURCHASING?—When you decide to switch commodities among buyers—or even make changes in clerical assignments—be sure that everyone in the plant who has business with purchasing knows about it. Requisitioners, particularly, should be kept informed on who's buying what materials and who's responsible for follow up on them. If you put them on the distribution list for announcements of department changes, you'll help eliminate a lot of confusion and misunderstanding later on.

HELP IN FIGURING EOQ—If you have set up a nomograph for calculating economic ordering quantities, try printing it on the back of your requisition form. Buyers or requisitioners can quickly and efficiently figure EOQ right on the form without using extra sheets of paper. In addition, the calculation and chart become a permanent part of the record. Remember that the nomograph is just a tool, however. You still need the personal contact between buyers and requisitioners that formulas can't replace.

WHEN YOU SET VISITING HOURS—Limiting salesmen's visits to certain days and hours isn't universally popular, but it's often necessary. When you have to make that move, you can soften the blow by explaining why you have to do it, and what the new arrangements are, to everyone concerned. G. C. Minehart, Hydraulic Division, Twin Disc Clutch Co., Rockford, Ill., did just that with a form letter to all suppliers, clearly stating the company's policy on all sales visits and indicating the days and hours they could be made.

SPECIAL PURCHASE ORDER CLAUSES—Standard clauses printed on the reverse side of purchase orders don't always cover every aspect of a transaction. An aircraft supply company has established a set of 16 clauses to cover specific points that might become matters of issue in dealings with vendors. The clauses cover a number of special situations—from allowances for overs-and-unders, to burrs and sharp corners on material. Individual clauses are typed on the face of the p.o. as needed. For a copy of these clauses, to use as a guide to setting up your own, write the editorial department of this magazine.

CENTRALIZED COPYING CUTS COSTS—If there are a number of copying machines scattered about your department or company, chances are a lot of time and money are being wasted. Inexperienced or careless users of such equipment don't know how to adjust the controls, often waste three or four sheets of expensive paper before getting a satisfactory copy—so the cost of the copy can run as high as 25¢. Centralizing copying machines and putting them under the control of one or more experienced operators will eliminate a good deal of that waste.

SAVE

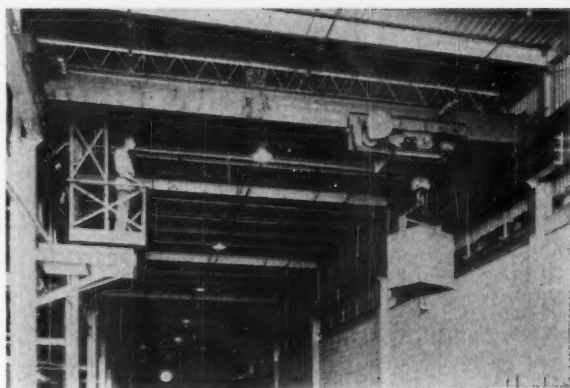
UP TO 30%

HOISTS/CRANES

Bridge Center Drive Cross Shaft Couplings Cross Shaft Bearings Current Collectors Push Button Station End Trucks Magnetic Control

R&M "Build-It-Yourself" CRANE COMPONENTS

Now, save up to 30% by using R&M's new high-quality components to build your own rugged, hard-working crane in spans through 50 feet, capacities through ten tons! R&M supplies all parts, except structural steel and drive shaft (obtainable locally). Four types of end truck assemblies meet every service requirement—motor-driven or hand-gear operation, top running or underhung. Center drive assembly provides two gear reductions, motor, magnetic disc brake, choice of single or variable speed or accelerating fluid drive. Other R&M components include magnetic controls, cross shaft bearings and couplings, current collectors, push button station. Complete assembly drawings furnished. Write for Bulletin 900-5PG



take it up  with R&M®
hoists cranes

ROBBINS & MYERS, INC., Springfield, Ohio

Electric Hoists and Overhead Traveling Cranes • Fractional and Integral HP Electric Motors • Moyno® Industrial Pumps
Propellair® Industrial Fans • R & M-Hunter Fans and Electric Heat • Trade-Wind Range Hoods and Ventilators
Subsidiary companies at: Memphis, Tenn., Pico Rivera, Calif., Brantford, Ontario.

For More Facts Write No. 200 on Information Card—Last Page

Editorial

Supplier Service Is Getting Worse

SURE, THINGS ARE TOUGH for American business.

Foreign competition is cutting into sales.

Union wage demands are driving costs up.

Discriminatory taxes are eating away profits.

Faced with such problems, company presidents and sales executives have good cause to complain and feel sorry for themselves.

But when is someone among them going to stand up and admit there's another reason they've been taking such a beating lately? Who will tell them that a growing number of American companies are getting too lazy or too incompetent to get out and properly sell and service accounts?

A purchasing executive writes (see letter on page 46) that he sent for sales literature in answer to a manufacturer's advertisement. He wasn't trying to dodge an aggressive salesman. He was making himself a good prospect for a company presumably interested in selling something, since it had invested a good sum in advertising. What happened? Nothing. He received no literature. No representative called. He wasn't even given the courtesy of an answer. Four more times he wrote. And each time the same thing happened—nothing.

"For the last three years," he adds, "we have found it necessary to write some of our present suppliers and potential suppliers three and four times before receiving an answer."

If this is going on here, you can imagine the treatment customers and prospects are getting abroad, where we must sell more—a lot more—if our economy is to stay strong and healthy. A Department of Commerce survey team has reported that one of the reasons West German industry hesitates to buy from American suppliers is the sloppy and indifferent way they follow up inquiries—if they follow them up at all. Another complaint is that those who have cracked the German market give their customers very poor service.

Good selling is a round-the-clock job, not something to be done on the golf course and over the bar on weekends. You'll be doing yourself and American industry a big favor if you intensify your demands for better salesmanship and service now before it's too late.

Paul V. Farrell

The How-to of

By John Van Deventer



George Warren (right), City of Baltimore P.A., and his assistant, C. Allan Bunce, review an order typed with their new automated system.

AT ONE TIME or another, just about every purchasing agent gives some thought to automating a part or all of his purchasing operation. However, after looking into the matter, many conclude that their purchasing department is just too small to benefit from automation of any kind. Still other purchasing agents feel they could use automation, if they could only figure out where to begin using it, and to what extent.

It was in this latter category that George Warren, City Purchasing Agent for Baltimore, Md., found himself three years ago.

Today, Warren has a system that automates the typing of both bid requests and purchase orders. The system has more than halved typing time, practically eliminated errors, and greatly increased the morale of the purchasing staff. In addition, the system provides a great deal of vital statistical buying information.

While the City of Baltimore's purchasing department is big—49 people and \$25 million annual purchases—Warren feels that any purchasing department with annual purchases over \$1 million could use his automated system.

Talking about why he made the switch to automation, Warren says: "It was mainly the size and complexity of our purchasing operation which made me realize that sooner or later we'd have to automate. We buy everything needed by the City of Baltimore's 42 major departments and bureaus. When we first started studying our operations with an



Sara Dunn operates machine that automatically types orders from edge-punched cards and simultaneously generates IBM card for data processing.

Mr. Van Deventer, a former member of the staff of *PURCHASING Magazine*, is a free-lance writer who has written extensively on purchasing subjects.

Purchasing Automation

eye to automation three years ago, we found we were issuing about 46,000 purchase orders a year and buying between 250,000 and 300,000 different items."

After analyzing several types of automated systems and talking with various equipment companies, Warren decided to use a combination of Friden and IBM equipment. He then spent a year working with members of his staff, and with Friden, developing the system. "Suppliers helped a lot in developing the automated system," says George. "They worked closely with us in designing new purchasing forms, and in adapting the system to the City's accounting methods." (Warren credits two articles in *PURCHASING Magazine* for giving him some vital background information on paperwork automation.)

Warren and one of his staff attended the Friden school in Rochester, N. Y., for one week to learn how to operate the equipment used in the automated system. After a three month shake-down period, operation of the new system began in January, 1961.

Machine Types Bids

The automated system is used primarily for repetitive items, which amount to 80% of the items purchased by the City of Baltimore. The system is built around edge-punched cards. These cards are run through machines that automate typing of request-for-bid and purchase order forms. (See flow chart, p. 73). There are edge-punched cards for each stock item purchased, each frequently used vendor, and each department of the City.

The automated system can best be explained by tracing an edge-punched item card through the

423616349 PKG SCREW,CAP-STL HXHD 5/8 X 1 X 11 USS											
DATE	PURCHASE ORDER	VENDOR	BID	QUAN	PRICE PER UNIT	DEPT	DATE	PURCHASE ORDER	VENDOR	BID	QUAN
10-18	26003	15660	1024	10	1.82	017					
1961											
2-7	5120	11240	210	15	1.70	017					
4/13	14816	70380	627	10	1.55	017					
9/28	21774	15660	940	10	1.60	017					

This edge-punched item card automatically types out data indicated on top of card when it is inserted in Flexowriter. It also serves as purchase record or traveling requisition.

purchasing cycle. To initiate a purchase, the requisitioning department merely fills in the "quantity" column on its item card and forwards it to purchasing.

After reviewing the requisition card for sources of supply, the buyer includes it in a group of biddable requisitions and forwards the group to the machine room. The machine operator runs the edge-punched cards through a Friden Flexowriter which automatically types a request-for-bid form. The bids are then mailed to the vendors.

After the bids come back, the appropriate buyer selects the vendors and then sends the bids and the edge-punched traveling requisition cards for a given vendor to the machine room. The machine operator pulls the vendor card as well as the departmental card from her files. These two cards and the edge-punched traveling requisition cards are run through

the Friden Computyper. The operator types in only the quantity ordered and the unit price of the award. The Computyper computes, extends, and totals each purchase order automatically.

While the Computyper is typing a purchase order, it also creates an IBM card on an IBM 026 card-punch machine. The IBM card contains valuable data about the purchase, e.g., the classification of materials, the buyer, and information needed by accounting.

Accounting Uses IBM Cards

At the end of each day, all IBM cards are forwarded to the accounting department where they are used to machine post encumbrances against departmental accounts. This posting was formerly done by hand.

If an edge-punched item card, or traveling requisition, has not yet been prepared for an item, the requisitioning department

6600- -BALTO. CITY HOS. GEN STR ROOM 4940 EASTERN AVE BALTO 24 MD.

Friden
EDGE PUNCHED CARD
Friden, Inc., San Leandro, Calif.

AMERICAN BIBLE SOCIETY 02550 DEL. NET
7 MARYLAND BIBLE SOCIETY
9 E. FRANKLIN ST.
BALTIMORE 2, MD.

Friden
EDGE PUNCHED CARD
Friden, Inc., San Leandro, Calif.

Separate edge-punched cards are kept for each vendor and each using department. The appropriate cards are then fed in along with the item card to automatically type the quotation request and purchase order.

forwards a manually typed requisition to purchasing. The appropriate buyer determines if the item should be included in the automated system. If he thinks it should, he assigns a classification number to the item and sends the requisition to the machine room.

When the operator types the requisition information into the Flexowriter, two edge-punched, traveling requisition cards are automatically created (one that will later be kept by the requisitioning department, the other to be put in purchasing's master

file). From this point on, the operation follows the normal purchasing procedure.

Under the old system, all requisitions, request-for-bids, and purchase orders were typed manually. Accounting manually totaled and posted the purchase order to the departmental accounts.

Comparing the old system with the new, George Warren cites the following advantages:

(1) Once the correct specification for an item has been properly punched into a Friden edge-punched card, all future typing of the item to request-for-bid and

purchase order forms (except for quantity entry) is completely automatic and error free. Typing speed under the automatic method is 180 words per minute.

(2) Accounting records are more accurately maintained since a machine-calculated total from the purchase order is machine-posted to the departmental account. Also, posting time is cut 30%.

(3) The new system produces valuable by-product information such as: total volume of purchases in a given period; total purchases broken down by buyers, departments, commodity classifications, vendors, etc.; and a statistical analysis of price increases.

Warren says that so far the automated system has not reduced the number of people in his department. "If we hadn't automated," Warren points out, "we'd have had to get at least two additional people to cope with our increased purchasing volume. We definitely feel that many man-hours have been gained as a result of the new system."

In addition, Warren has another reason for not having to cut personnel. "We need people to make up edge-punched cards on about 280,000 items. This job will take at least two more years."

Items Must Be Classified

Along with the job of making up the cards, another time consuming project is classifying the many thousands of items being bought under the automated system. At present, Warren has one man working full time on this.

Classification of items is based on 72 major and numerous sub-classifications. Five digits are added on to the sub-classification, creating a nine digit item number. This classification method allows expansion up to 999,999,999 items and the insertion of new items without re-numbering.

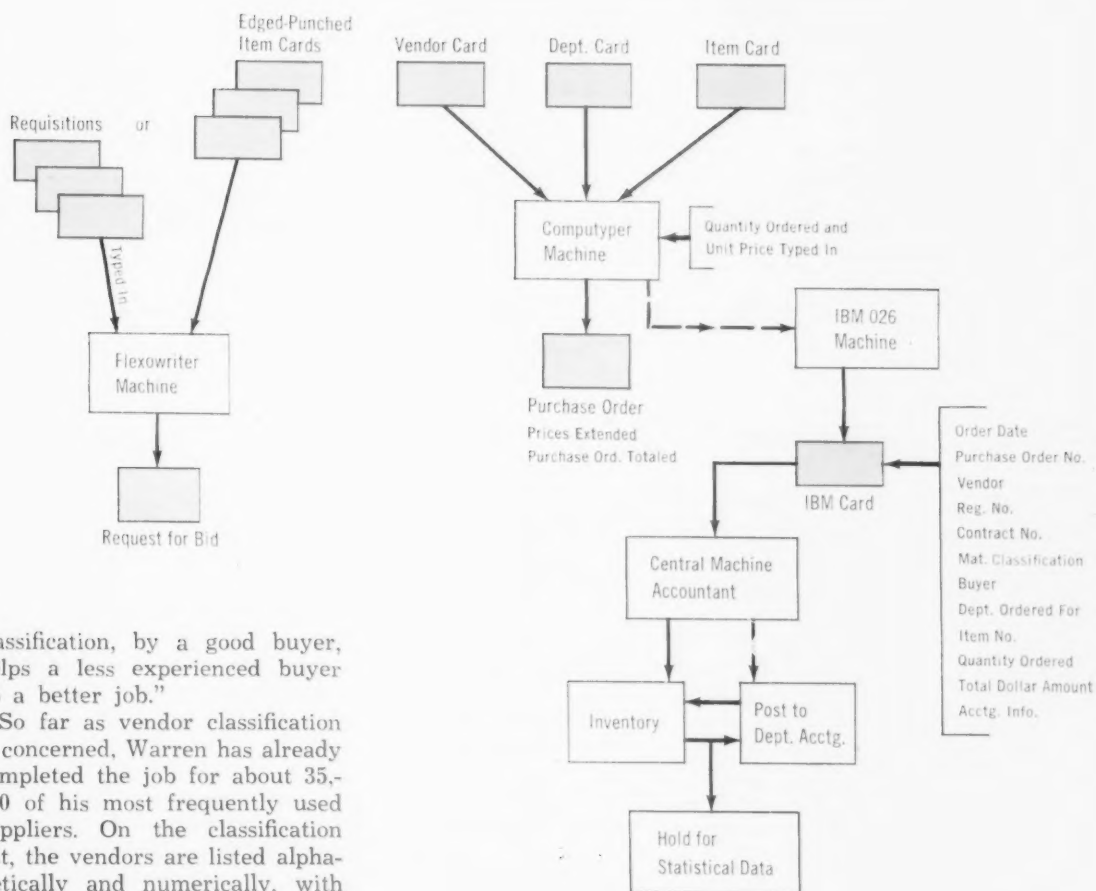
"Our basic objective in classifying," says Warren, "is to put all commodities in the proper buying groups for bids and to provide an efficient filing system for item cards."

"Classification is my biggest problem now," he continues. "But it's worth the headaches. Good



Niles Hilton, inventory control clerk, pulls edge-punched cards that are part of requisition and are later used to type the order.

How Automated Purchasing Works



classification, by a good buyer, helps a less experienced buyer do a better job."

So far as vendor classification is concerned, Warren has already completed the job for about 35,000 of his most frequently used suppliers. On the classification list, the vendors are listed alphabetically and numerically, with 20 spaces between each name to allow room for new suppliers. Edge-punched cards have been made up for each vendor on the list.

In addition, edge-punched cards have been made up for each of the 52 departments of the City, and for the roughly 300 receiving points within the City.

Annual cost to operate the automated system is approximately \$5,500—\$1,000 for cards and tapes; and \$4500 to rent the Friden and IBM machines (both are on a lease-purchase arrangement). Total cost of the equipment used in purchasing (the Computyper, Flexowriter, and the IBM 026 Card Punch) is \$15,000.

Greater automation of inventory control seems likely to be the next step in program. At present inventory records of most of the departmental stock rooms and warehouses are kept by the ma-

chine accounting division of the budget director's office. For the inventories at four warehouses which are purchasing's responsibility, the senior buyer in charge of warehousing sets inventory levels based on judgment and experience.

Color Code for Stock Status

Inventory cards are color-coded to indicate the stock status of an item, and Friden edge-punched item cards are filed with their corresponding inventory cards. Currently purchasing's inventories are hand posted. However, Warren plans to shift to machine posting in the near future, as soon as a "use-history" has been developed.

As for the other broad area of purchasing automation—the automation of the mathematical de-

terminations of when and how much to buy—Warren has this to say:

"Once a re-ordering history has been established for an item, it might be worthwhile to develop a formula for future ordering. However, it takes a minimum of 30,000 items to justify mathematical inventory control."

Warren cautions that unprecedented demand for an item can quickly throw off the best of formulas. "Last year, for example," he says, "with one of the worst winters we've had in years, our consumption of tire chains went up four times the usual amount. How can you allow for that sort of thing in a mathematical formula?"

Another reason he is somewhat cool on the idea of using mathematics to control inventory levels

REQUEST FOR BID **CITY OF BALTIMORE**
NO. 0977 **PAGE 1** **BUREAU OF PURCHASES**
 PIER 2, 401 EAST PRATT ST.
 BALTIMORE 2, MARYLAND
 TELEPHONE PLAZA 2-2200 EX-2261

CLASSIFICATION PHOTOGRAPHIC SUPPLIES - BUYER 02

THIS IS NOT AN ORDER
 IN EVENT OF THIS BID BEING ACCEPTED,
 A PURCHASE ORDER WILL BE SENT.
 WE RESERVE THE RIGHT TO ACCEPT
 PART OR ALL OF YOUR BID AND TO
 WAIVE INFORMALITIES.

THIS SECTION MUST BE COMPLETED
PAGE NO.

FIRM NAME _____

BID PREPARED BY _____

PHONE NO. _____

TERMS % _____ **DAYS** _____ **NET** _____

DELIVERY PROMISED _____

VENDOR MUST FILL IN PRICE (X) AND TOTAL IN ALL COLUMNS.

ITEM NO.	QUANTITY	UNIT	PRICE PER UNIT	PLEASE ENTER YOUR BID ON THE FOLLOWING SUPPLIES OR SERVICES	X TOTAL PRICE	BRAND, S-ZIS, DATED, NUMBER ETC.	DELIVERY PRICE PER UNIT X EXTEND TOTAL
BURHA-1423	24 DOZ	AG-1 FLASHBULBS					
	40 ROLL	VF B W /VERICHROME PAN/					
	24 DOZ	3000 SPEED-TYPE 47 POLAROID					
		VERICHROME K 135 - 20					
		VERICHROME K 135 - 20					

IMPORTANT: ALL PRICES MUST BE EXTENDED

SIGNED _____

FIRM NAME _____ **SIGNED BY** _____ **TITLE** _____ **DATE** _____ **TELEPHONE NO.** _____

Bid requests (top) and purchase orders (below) are produced automatically from three edge-punched cards (vendor, department, and item).

is that "you need to review commonly used items on a visual basis more frequently than you would if you relied on a formula, or automatic, set-up. In addition you can only check obsolescence visually."

Advice to P.A.'s

Warren offers this advice to purchasing agents who may be thinking about automating their purchasing system:

(1) Visualize how your system would work before purchasing any equipment. To do this it helps to make up flow charts and time study charts.

(2) Check all equipment available on the market. Make sure you're not buying a system that will soon be obsolete. Compare costs of different systems, and evaluate personnel costs carefully.

(3) Train operators before installing equipment, and don't plan too rapid a change-over.

(4) Be prepared to modify your system as you go along. ► END

TELEPHONE PLAZA 2-2200 EX-2261

CITY OF BALTIMORE
BUREAU OF PURCHASES
 PIER 2, 401 EAST PRATT ST.
 BALTIMORE 2, MARYLAND

PURCHASE ORDER NO. 21299

DATE 09/28/61 **CLASSIFICATION** 12

FOR DEPARTMENT REFERENCE ONLY

ISSUED TO HAJDOCA CORPORATION
 2740 LOCH RAVEN ROAD
 BALTIMORE 18, MD

37180 **DEL** **NET**

THIS FORM IS NOT TO BE USED FOR SALES SOLICITATION.

DELIVER TO- 660U- -BALTO. CITY HOS. GEN STR ROOM 4940 EASTERN AVE BALTO 24 MD.

SPECIAL INSTRUCTIONS CONFIRMING MATL RECD

RELIER OR INVOICE	ENDORSE NO.	BID OR CONTRACT NO.	WORK ORDER NO.	COST ACCOUNT	CONTROLLER'S SYMBOL	BUYER DEPARTMENT
	6792	BF60014	21F005	6.0180	09 050	

ITEM NO.	QUANTITY	UNIT	PRICE PER UNIT	FURNISH THE FOLLOWING SUPPLIES AND/OR SERVICES	EXTENSION
	2 CYL		66.70	145 PD. CYLINDERS F-12 FREON	133.40
	2 "		20.00	RETURNABLE CYL IF APPLICABLE	40.00
					173.40

IMPORTANT PURCHASE CONDITIONS TO BE FULFILLED BEFORE PAYMENT:

- Invoices to be submitted in triplicate direct to Bureau of Disbursement, 209 City Hall. Vendor separate invoice for each order and each shipment.
- Identification. All invoices, bills of lading, packing slips, etc. must give the City Purchase Order Number and original vendor's name.
- Price. This order must not be shipped or invoiced at prices higher than those shown. No delivery or packaging charges will be allowed unless so stated. Contact City Purchasing Agent for instructions if any problem develops.
- Material delivered shall not vary from specified quantity and will be subject to quality inspection and test. Material may be returned within thirty days after delivery and held for disposition at vendor's risk and expense.
- Delivery must actually be effected within the time stated. In failing, the City reserves the right to cancel order and purchase elsewhere, and charge vendor with any loss incurred as a result thereof, or liquidated damages.
- Patents and Copyrights. Seller warrants that there has been no violation of copyrights or patent rights in manufacturing, producing or selling the goods shipped or ordered and seller agrees to hold the City harmless from any and all liability, loss, or expense incurred by any such violation.
- Taxes. No State or Federal Taxes apply Maryland Sales and Use Tax Exemption Certificate #55 applicable. Federal Excise Tax Registry Code 1110 WE X Baltimore District applies to per tax change 1958.

FOR THE MAYOR AND CITY COUNCIL BY: _____

GEORGE W. WARREN, JR., CITY PURCHASING AGENT

Flying P.A. Gets More Value In Less Time

Speed and efficiency mark the cost reduction and blanket order systems developed by a purchasing executive who flies his own plane on visits to suppliers' plants. He has cut paperwork and been able to get his suppliers to carry his inventory until it's needed.



Fifteen minutes after he leaves his office, Fuller Manufacturing P.A. Rollie World can be cruising at 165 mph toward a vendor's plant. An engineer, inspector, or buyer frequently accompanies him on these trips.

ROLLIE WORLD climbed into his Mooney Mark 20A at the start of a normal workday last week, flew off to visit a supplier's plant a couple of hundred miles away, and was back in Kalamazoo, Mich. in time to have lunch with the other members of his purchasing department.

World's flight, one of several dozen he makes a year, is characteristic of his whole approach to purchasing. As purchasing agent for the Fuller Transmission Division of Eaton Manufacturing Co., he runs a buying operation that is fast, forceful, and efficient.

"We're spending around \$15 million a year," he says. "I want to do the job according to my own min-max formula: a maximum of value, a minimum of clerical ef-

fort and wasted time, and a minimum of inventory."

Fuller purchasing goes after the first objective with a vigorous cost reduction program, in which vendors—both old and new—play a big part. It goes after the others with a blanket order system that keeps paperwork down and inventory in the hands of suppliers until it's needed. The system has enabled purchasing to get along with an average of less than 15 purchase orders for production materials a week.

World's use of his own plane to move quickly to vendors' and potential vendors' plants is more than just a gimmick. "A quick trip to a trouble spot, for example," he says, "can clear up a problem in a day. Long distance

telephone calls and elaborate correspondence might otherwise drag it out for weeks or months. And in the case of a new vendor we can get a close look at a new machine or a new process in action—something we could never get from a catalog. It's a big advantage to be able to make a decision on the spot." World's passengers on these trips have included engineers, quality control people, and buyers of various commodities and equipment.

How Purchasing Saves

Purchasing's ability to size up a new vendor quickly in his own plant, has enabled Fuller to save hundreds of thousands of dollars in the past few years. Switches to new sources of supply saved

PURCHASE ORDER
EATON MANUFACTURING COMPANY
 FULLER TRANSMISSION DIVISION
 KALAMAZOO, MICHIGAN

ORIGINAL
 FT-4-E

VIA ☐ F.O.B. ☐ TERMS ☐ DELIVER TO US AT ☐ PLANT ☐ MOBILE ☐ DEPT. ☐ ACCT NO. ☐ DATE ☐

STATE SALES TAX DOES NOT APPLY ON MATERIAL COVERED BY THIS ORDER.
 SEE REVERSE SIDE FOR FEDERAL EXCISE EXEMPTION CERTIFICATE.

THIS IS A BLANKET PURCHASE ORDER COVERING OUR REQUIREMENTS FROM TO OR FURTHER [] QUANTITIES AND DELIVERY SCHEDULES WILL BE ISSUED ON OUR RELEASE FORM.

THIS ORDER NUMBER MUST APPEAR ON ALL INVOICES, B/L, CARRIES, BUNDLES, PACKING LISTS AND ALL OTHER CORRESPONDENCE.

ORDER NO. P- []

OUR PART NO.	DESCRIPTION	PURCHASING QUANTITIES	UNIT	PRICE

MATERIAL SPECIFICATIONS
 SIZE ☐ MAX ☐
 LENGTH ☐ NET WT ☐
 MODEL ☐

1. ACKNOWLEDGMENT OF THIS PURCHASE ORDER ON THE ATTACHED FORM IS REQUIRED PROMPTLY!
2. INVOICE IN TRIPLICATE & BILL OF LADING MUST BE MAILED ON THE FIRST WORKING DAY FOLLOWING SHIPMENT.
3. INVOICES RECEIVED AFTER THE FOURTH WORKING DAY OF THE MONTH FOLLOWING SHIPMENT WILL BE DATED AS OF THE DATE RECEIVED.
4. THIS ORDER IS NOT TO BE FILLED AT HIGHER PRICES THAN SHOWN ON THE PURCHASE ORDER WITHOUT THE WRITTEN APPROVAL OF EATON MANUFACTURING COMPANY.
5. THIS ORDER IS SUBJECT TO THE CONDITIONS ON THE REVERSE SIDE HEREOF.
6. ANY DEVIATION FROM BLUE-PRINT SPECIFICATIONS OR MATERIAL ANALYSIS SPECIFIED ON THIS ORDER MUST BE APPROVED BY EATON MANUFACTURING COMPANY BEFORE MATERIAL IS SHIPPED.

EATON MANUFACTURING COMPANY
 FULLER TRANSMISSION DIVISION

ALL CORRESPONDENCE SHOULD BE DIRECTED TO THE ATTENTION OF ☐ PLANT PURCHASING AGENT

ONE COPY OF SUCH CORRESPONDENCE SHOULD BE DIRECTED TO ☐ BUYER

Five-part 8½ x 11 blanket purchase order includes original, receiving master, and follow-up copy printed on card stock. Other copies are for acknowledgment and accounting.

RECEIVING MASTER

ACCT NO. ☐ DATE ☐

SUBJECT TO RENEWAL ACT ☐

BLANKET PURCHASE ORDER REQUIREMENTS FROM TO OR FURTHER [] QUANTITIES AND DELIVERY SCHEDULES WILL BE ISSUED ON OUR RELEASE FORM.

NO. P- []

UNIT ☐ PRICE ☐

PURCHASING FOLLOW-UP

ACCT NO. ☐ DATE ☐

SUBJECT TO RENEWAL ACT ☐

BLANKET PURCHASE ORDER REQUIREMENTS FROM TO OR FURTHER [] QUANTITIES AND DELIVERY SCHEDULES WILL BE ISSUED ON OUR RELEASE FORM.

NUMBER MUST APPEAR ON ALL B/L, CARRIES, BUNDLES, PACKING LISTS AND ALL OTHER CORRESPONDENCE.

NO. P- []

UNIT ☐ PRICE ☐

1	2	3	4
DATE	ACCU.	PRO NO.	REC BY
VIA	RECEIPTS	P.L. NO.	DATE

1	2	3	4
DATE	ACCU.	PRO NO.	REC BY
VIA	RECEIPTS	P.L. NO.	DATE

CALLED ☐ PROMISE ☐

the company close to \$50,000 last year.

Cost reductions are not confined to changes in vendors, of course. Purchasing is continually working on such value analysis projects as substitution of permanent mold castings for aluminum sand castings (savings: \$11,000) and changing to carload purchases of core oil to get better price (savings: \$2,000). Purchasing, which also has responsibility for routing all incoming materials,

has also cut costs substantially by obtaining commodity rates on a number of his large volume items.

Use of Blanket Orders

Engineering, production, suppliers, and purchasing all have a hand in the savings Fuller gets from its blanket order system for production materials. Requisitions from production (see illustration) indicate monthly requirements, date wanted, shipping schedule,

specifications, etc. Blanket orders are based on these requisitions. Purchasing keeps close tabs on quantities and specs and will boost the size of an order or recommend a change in specifications if special market situations or vendor capabilities would make such a change advantageous.

"We use blanket orders not only to get lower prices on higher quantities," says World, "but to keep inventories in the hands of suppliers 'til we need them. I

ORIGINAL
ET-4-H

Instructions on blanket purchase order release form show how system aids suppliers in their own planning. By following guides established by Fuller, vendor knows when to ship, when to start planning production of next run, and when to buy raw materials for balance of order.

World doesn't necessarily advocate that every P.A. have his own plane. "Flying is my hobby," he says, "and it's just a coincidence that it fits in with my purchasing philosophy. But even if I got around in an ox-cart, I'd still demand speed, efficiency, and a minimum of detail in any purchasing operation that I was connected with." ► ENR

How to Write a Better Report

By Arthur R. Pell

GETTING information and putting it into a report is a tough job every purchasing executive faces regularly.

Management not only counts on reports for information but often considers them when the time comes to appraise your work for bonuses, raises or promotion.

Many purchasing men short-change themselves by submitting poorly developed, poorly thought-out, and even more poorly written reports. They rationalize—so long as they get basic data across, they have done their job.

A good report contains far more than basic information. It enables the reader to understand the subject of the report as clearly as the person who made the study. A good report is clear and concise—giving all the meat and trimming off the fat.

Don't Start Till You Have the Facts

Careful planning must go into a report. A purchasing agent I know was told to report to his company on a new machine recently introduced at a trade show. He wrote for some literature, abstracted a few facts and sent them in to the general manager. He got the report back with a page full of questions.

Had the P.A. planned this report properly, he would have had the answers to most of the questions in his original report. It would have taken no more time to prepare the report properly than to answer the questions asked after the poor report was submitted. Instead of being judged as a man who has to be "followed-through," he would be thought of as a "self-starter," a thoroughly dependable executive.

What should you do to handle such situations?

1. *Define the problem:* What is it we are seeking? Much time, effort and money have been wasted by not knowing just what it is that is wanted. Find out from the person requesting the report what his objectives are. Determine how he plans to use the report. Without knowing this, you might spend three weeks on a report in which he has casual interest and only a few days on one he

considers very important. This also will enable you to plan your own work on the project. If you don't know enough about the objective of the report you might end up working hardest on the least important phases of the matter.

2. *Get the Facts:* Once the objectives are clear try to get all the information you need. To take a simple example: A buyer or P.A. asking for a report on a new piece of equipment will certainly review the manufacturer's literature (as well as his competitors'). He may find it helpful to interview salesmen or engineers. He'll discuss the equipment with his own engineers and production people to sound out their opinions and attitudes.

3. *Analyze facts.* Once the data are accumulated, the P.A. will have to assemble, correlate, and analyze them. He will have to fit the facts together, compare what the machine can do with what the currently used equipment is doing. He may even investigate other possible equipment which may be available, if that fits his objectives.

It may be wise to present more than one alternative. If so, be sure to indicate the advantages and limitations of each so that a decision can be fairly made by management. Don't be afraid to make your own recommendations.

In assembling and analyzing facts, use some system to keep your information together and in order. A good technique used by researchers is

"MARY, HAVE YOU SEEN
THAT CHART ON
INVENTORY TURNOVER?"



You can save many hours of work if you pre-sort facts into folders instead of throwing them all together and sorting them later.

Mr. Pell, Vice President of Harper Associates, New York, N. Y., is a well-known personnel consultant who writes regularly for this magazine on general management subjects.

the category break-down. Make up a separate file folder or envelope for each major category of your study. As you dig up information on each of these subjects, e.g.: reports of interviews, sales literature, cost figures, etc.—put it in the proper folder. You can save many hours of sorting and assembling if you pre-sort your facts this way instead of throwing them all together and sorting them later.

Once all the data are collected, assembled and evaluated, you are ready to write the report.

A good business report must read easily. Its language and form should be familiar to the person or persons who will be reading it. An engineer writing a report for a non-technical management group should try to couch his report in as non-technical language as the subject permits. His readers are not trained as engineers, so he must translate his thoughts into words they understand.

The report writer has an advantage when he knows what his management expects in terms of language, details of content, graphic material, etc. Some executives prefer terse precise-type reports, others a lot of detail. Some want graphs and charts, others would rather have statistical tables giving exact figures.

Know your reader! Gear your report to his interests and desires. The report is written for him,

so tailor it to his needs.

Although there is no ideal report style, the following is generally accepted:

1. Brief statement of the problem: State what has been requested and by whom.

"As requested by our General Manager, I have analyzed the possibility of substituting XYZ equipment for the equipment we are now using in the ABC operation. The purpose of the report is to estimate what effect the new equipment would have on productivity, costs, quality, etc.,

Here also you may acknowledge the assistance of others. It is good diplomacy to give credit by name to the engineers, accountants, and others who helped you.

2. Summary and Recommendations: In a narrative, you don't understand the results until you read everything that leads up to them. A report is different. In a report you should present your summary and recommendations at the beginning. This will enable the executives who read it to get the key information at once. They do not have to wade through reams of detail to find out what is recommended. When time allows they can read the full report.

Your summary should synthesize the results of your study and outline your recommendations.

(Please turn to page 144)



You may have to discuss your report orally and answer questions on all phases of it. Frequently the questions will be on facts you didn't fully cover in the report.



Many purchasing men short-change themselves by submitting poor reports. They feel that as long as they get basic data across, they have done their job.

How a P.A. Becomes Plant Manager

Plant purchasing is the ideal environment for developing managerial talent. It provides training in human relations leadership, finance, and decision making. Here's how it helped one man to reach the top.

By Ted Metaxas, *Midwestern Editor*

GEORGE ALLEN isn't the first purchasing agent to be made plant manager, and he won't be the last.

But the reasoning behind management's choice of Allen for the top post in a 2000-man, \$35-million-a-year plant is interesting and significant. It provides some definite clues both for plant P.A.'s who are looking for ways to get ahead, and for executives who are looking for managerial talent in their own companies.

Allen was purchasing agent for Clark Equipment's Automotive Division in Jackson, Mich., when the plant manager's spot opened up a few months ago. Responsibility for filling it was given to Vice President Claud Fenn who had a number of candidates from within and without the company to choose from.

Fenn mentally sketched the man he wanted for the job. He felt that ideally the man should

be broadly versed in company operations. He should have a finely developed skill in human relations and proven leadership qualities. He should have good business judgment, a head for statistics and costs, expert knowledge of Clark products, and the ability to make sound decisions under pressure.

Feel Purchasing's Influence

Allen was one of the candidates whose qualifications Fenn carefully analyzed. He had been in Clark purchasing for 18 years, 10 of them at Jackson. He was widely respected for his cost reduction efforts, his general efficiency, and his willingness to offer service to every department in the plant. On the surface, it was a good record, but Fenn had to consider a lot more than a good routine buying job.

Did Allen have a broad enough

understanding of company operations? It certainly seemed so. He had worked hard at improving relations between purchasing and other departments, and had made purchasing a regular participant at engineering, production, product planning, scheduling, and sales staff meetings. Purchasing's influence was felt from the design board to the shipping dock.

A key man in developing product cost estimates, Allen had an encyclopedic knowledge of purchased materials, vendors, delivery lead times, and new supplier developments. His department bought 3000 different materials, constituting almost half the division's finished product cost. Allen and his buyers not only knew their commodities, they knew where they fitted and how they operated in all of Clark's products. And years of experience in liaison work between ven-



Vice President Claud Fenn (l.) and P.A.-turned-Plant-Manager George Allen watch an assembly operation in Clark's Jackson plant.



Allen discusses a manufacturing problem with a department head. As P.A., he developed good communications with plant personnel.



George Allen's experience in purchasing helped him develop managerial skills and a broad knowledge of factory operations.

dors and their own manufacturing department had given them a thorough understanding of production scheduling and delivery problems.

Another factor in Allen's favor: for years he had been responsible for inventory control, a job that develops statistical and planning ability. When computer time was made available for inventory work, Allen made full use of it to expand purchasing's contribution to other departments.

Was Allen a leader of men? This quality is hardest to measure because it can be demonstrated in so many different ways. Allen had built a cooperative and imaginative buying team. But his department was made up of only 15 people, a tiny group by plant management standards. Fenn looked at his leadership qualities in another way, however: Allen had been highly successful in develop-

ing hundreds of reliable suppliers for Clark, winning their respect and confidence without once compromising the basic principles of good buying.

Makes Quick, Sound Decisions

Would Allen be a competent decision-maker? Fenn reviewed the many areas of responsibility Allen had handled successfully: commitment of company funds, negotiations with suppliers, control of inventory, participation in staff meetings, and management of his own department. In each he had not hesitated to make numerous far-reaching decisions, and the results showed that they were largely the right ones. His decisions had affected every sector of company operations.

Fenn's study of Allen's qualifications as a man and as a purchasing executive led him to one conclusion: Allen could handle the

plant manager's job.

Men don't get promoted simply because they have been successful in one phase of a business, of course. George Allen's personal qualities and abilities probably would have carried him far if he had started at a drafting board. But plant purchasing is a particularly good spot to help a man on his way up.

"A good purchasing department is one of the best environments in which a man can mature as a manager," claims Fenn. "Ours is a strong department that insists on working closely with other groups, and believes in giving buyers more responsibility. It works hard at building skill in cost analysis, inventory control, make or buy evaluations, and similar techniques. A department that accepts so much responsibility can't help but be a platform for advancement." ► END



This article is one of a series illustrating and explaining the use of various purchasing department forms. All forms that will be described in this series have been selected from organizations around the country. J. C. Gibsonville, N. C., supplied the forms shown on these pages.

[illegible]

stock on hand or stock less allocations reaches the low limit, the traveling requisition is pulled, current balances and allocations noted, and then the card is forwarded to the buyer who selects the vendor and places the order.

[illegible]


ENGINEERED *Plastics* CORPORATED **ORDER REQUISITION**

PURCHASE ORDER NO. _____

[illegible]

Form at right, used for non-repetitive items, completes the series of requisitions employed by Engineered Plastics' Purchasing Agent C. V. Long, Jr. Requisitions of this type generally come from the tool crib or inventory control clerk.

MEADAGE BUSINESS FORMS CO. 6-5759



PURCHASE ORDER

ENGINEERED PLASTICS INCORPORATED
GIBSONVILLE, N. C.

ORDER No. _____

DATE _____

1. Order Number must be shown on all Invoices, Shipping Papers, and on the outside of all shipments.

2. Include Packing Slip in all shipments.

3. Return Acknowledgment Copy within 4 days of receipt.

4. Invoice in DUPLICATE.

5. We reserve right to reject all shipments which do not comply with instructions and/or specifications.

6. Receiving Dept. Hours: 7:30 A. M. - 4:00 P. M.

Ship Via _____ To Arrive by _____

QUANTITY	DESCRIPTION

☐ Confirming _____ to _____ DO NOT DUPLICATE

☐ Not subject to N. C. Sales Tax. Certificate 817-9-001-04322

Seller warrants that all materials, products, & services supplied under this order are in compliance with Fair Labor Standards Act of 1938 as amended.

By _____ PURCHASING AGENT BUYER

The 5-part purchase order used by Engineered Plastics measures 7 x 8½ inches. The first two copies are four inches longer than the other copies. Reason: to give the vendor an easy-to-return acknowledgment copy, and to provide space on the second copy for purchasing to record shipment receipts.

INSTRUCTIONS TO VENDOR

- 1— Complete and return within 4 days of receipt by placing in window envelope.
- 2— Vendor order No. _____
- 3— Will ship _____

ORDER No. _____

NOTE - Vendor is held responsible for meeting delivery requested unless Purchaser is notified immediately of any change.

Receipt Acknowledged

Company _____

by _____

Date _____

ENGINEERED PLASTICS, INC.
BOX 909
GIBSONVILLE, N. C.

Our P. O. _____ Date _____

Your _____

Gentlemen:

Please advise your anticipated delivery schedule on _____ of the above order. May we thank you and remain _____

Very truly yours,
ENGINEERED PLASTICS, INCORPORATED
J. A. Martin

A follow-up card (above) is sent out if the vendor has not returned acknowledgment within five days. Three days prior to promised shipping date the vendor gets a form letter (right) as a reminder. Note that the letter states in part, "If you shipped on or before this date, we do not expect an answer."

ENGINEERED PLASTICS, INCORPORATED
GIBSONVILLE, NORTH CAROLINA

Phone 2411 TWX 543

To: _____ Date _____

Att: _____

Gentlemen:

You promised to ship (item - items) _____ of our purchase order No. _____ on _____ If you shipped on or before this promised date, we do not expect an answer. However, if you did not ship by the above date advise immediately when you will ship and the reason for delay.

Future business is contingent upon your ability to meet your promised delivery schedules.

Very truly yours,
ENGINEERED PLASTICS, INCORPORATED
J. A. Martin

Rating System Improves Vendor Performance

J.M. Huber Corp. buyers use a simple, printed form in evaluating suppliers' service, products, and sales personnel. Aim is to help them recognize and eliminate weak spots.

By Leonard Sloane, News Editor

E. M. Krech, director of purchases for J. M. Huber Corp., set up a vendor rating system because he was dissatisfied with the informal methods previously used.

"I felt our people were rating vendors only by what they knew at that instant rather than on the performance record over a period of time," he says. "I also wanted to eliminate personal prejudices on the part of the buyer by making vendor rating a planned and organized analysis based on facts.

"The greatest value of our system," says Krech, "is that we can pinpoint the area where a vendor is weak and help him straighten out, rather than change vendors. We had good reason for choosing a vendor in the first place. It's time-consuming, difficult, and expensive to change and we don't want to train a new vendor unless we have to. With this system, we try to find a vendor's specific weakness and put him on notice that we expect him to improve."

The vendor rating is based on a simple one-page printed form (see illustration at right). Under four general headings it lists the categories in which vendors should be rated. The ratings are excellent, good, fair, or poor. A supplier gets four points for top performance, three for good, etc.

The report is used to rate suppliers of major commodities bought at all seven Huber plants, such as multiwall bags, petroleum

(Text continues on page 86)

VENDOR RATING REPORT

COMPANY

Company:	Excellent (4)	GOOD (3)	FAIR (2)	POOR (1)
Size and or Capacity	4			
Financial Strength		3		
Operational Profit		3		
Manufacturing Range	4			
Research Facilities			2	
Technical Service		3		
Geographical Locations	4			
Management		3		
Labor Relations		3		
Trade Relations		3		
Total	32	12	18	2
.63 x Total =	20.16			

Service

Deliveries on Time	4			
Condition on Arrival		3		
Follow Instructions		3		
Number of Rejections	4			
Handling of Complaints		3		
Technical Assistance			2	
Emergency Aid		3		
Supply Up to Date Catalogues, Etc.				1
Supply Price Changes Promptly	4			
Total	27	12	12	2
.69 x Total =	18.63			

Engineering and quality control help purchasing rate vendors on quality, packaging, etc. This group is preparing a report on a vendor at Huber's Borger, Tex. plant.



J. M. HUBER CORPORATION

DATE

TOTAL RATING

Products:		Excellent (4)	GOOD (3)	FAIR (2)	POOR (1)
Quality		4			
Price			3		
Packaging		4			
Uniformity			3		
Warranty		4			
Total	18	12	6		
1.25 x Total = 22.50					
Sales Personnel					
1. Knowledge					
His Company			3		
His Products		4			
Our Industry			3		
Our Company			3		
2. Sales Calls					
Properly Spaced		4			
By Appointment			3		
Planned and Prepared			3		
Mutually Productive		4			
3. Sales-Service					
Obtain Information			3		
Furnish Quotations Promptly		4			
Follow Orders			3		
Expedite Delivery			3		
Handle Complaints			3		
Total	43	16	27		
.48 x Total = 20.64					

Huber vendors are given points for quality of performance within four categories — company, service, product, and sales personnel. Total of points received in a given category is weighted so that the maximum score in each of the four categories is 25.

Vendor rating not only helps suppliers do a better job, it also serves to educate buyers on what services they have a right to expect from every supplier.

products, and chemicals. Eventually, Krech hopes to use it on many standard items, such as automobile equipment and important MRO supplies.

Every six months, Krech's secretary sends out a batch of forms to the buying locations. Buyers are asked to grade their major commodity vendors in three general areas—service, products, and sales personnel. Buyers ask the other Huber staff and line departments at the plants to help them grade vendors on the service received. For example, receiving is asked about the category "condition on arrival," while accounting provides statistical information in "number of rejections." Other categories include "deliveries on time," handling of complaints," and "technical aid."

When a buyer completes his part of the form, he returns it to Krech who fills in the section on the supplier company itself. This covers size, profits, technical service, management, labor relations, and trade relations. Krech's information is based on top-level discussions with management in supplier companies, corporate financial statements, etc.

Krech's secretarial staff then tabulates the numerical rating. Each of the four areas on the report is totaled separately and weighted to give a maximum of 25 points each.

Huber takes great care to make sure the vendor rating report is not used to jeopardize normal buyer-seller relationships. Buyers are not shown the consolidated vendor rating, which is used only in discussion between Krech and supplier sales management.

Krech will tell the sales manager for a supplier what complaints the buyers in the field may have about any of his salesmen. Conversely, he'll praise salesmen who obviously are doing an outstanding job. It doesn't take the average sales manager

long to straighten out a salesman who has any kind of problem.

The back of the rating report is often used by buyers to elaborate on specific points about the vendor. For example, one buyer used the back of a report to inform Krech that a vendor salesman was doing an exceptionally fine job but had one fault: he hung around the office too long after making a sales call. When Krech mentioned this casually to his sales manager, the salesman was diplomatically told about the complaint and the matter was quickly resolved.

"Our vendor rating system is more than statistical," Krech says. "While we do arrive at a numerical judgment, we don't go by mere numbers alone. You can't use just numbers because you're dealing with people."

"We make it a point to study all aspects of the situation. For

example, on some commodities like multiwall bags, product and service is more important than the others and we'll rate vendors accordingly. The important thing, however, is that the system gives us the basic facts about each vendor which we can use to make our evaluation."

The rating reports are also used by Krech as justification for the way the company splits up its business among vendors. "I show these reports to top management of supplier companies if they ever complain about not getting enough business."

Vendors Appreciate It

Krech received encouragement for his vendor rating reports from Jerry Harris, Huber's vice president for industrial sales. Harris told Krech during one of their periodic meetings that it would be a tremendous help for him to know where his own salesmen were falling down so that he could help them. That's when Krech realized that he could help vendor salesmen calling on him.

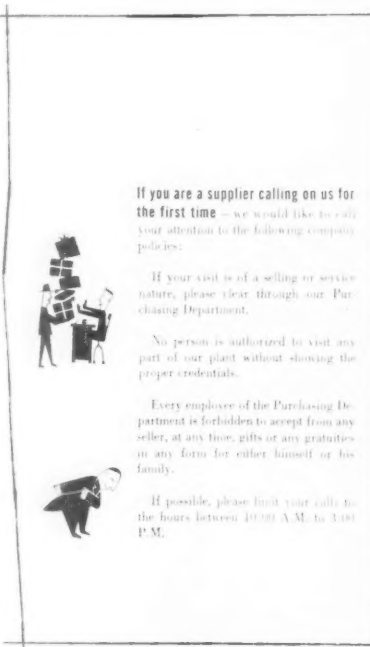
"We think our system is a better, more courteous way to show a supplier how to do a good job," he says. "And vendors appreciate it, as well, because it shows them both their strong points and their weak points."

Krech hopes to use this same form soon to help him develop his buyers. By studying the buyers' reports over an extended period he feels that he will be able to determine if buyers are prejudiced against any particular companies or salesmen. The reports will also help to educate buyers, on what services they should expect from a good supplier.

Purchasing agents who are thinking about establishing vendor rating systems in their companies should ask themselves these 3 questions, says Krech:

- (1) Are you trying to help the vendor and his salesmen as well as yourself?
- (2) Will you use the system to help build vendor efforts on your behalf?
- (3) Is the system adapted to the particular requirements of your company and your industry?

► END



Page from Huber's attractive welcome booklet clearly but politely spells out company policy in relation to salesmen.

Important Decisions in Purchasing Law

By Albert Woodruff Gray,
Legal Editor

"Fair Market Value" Is Held a Legal Price

A scrap sales contract before an Ohio court included this provision: "Said party agrees to grant to Cohen & Sons the first right to purchase from him any or all sheet iron which has been purchased by him at the fair market value of said materials then prevailing in the Cincinnati market."

In a damage suit, counsel contended that this provision was invalid because of uncertainty. "Fair market price," he argued, relates to a particular or set price, which was not defined in the contract.

The court commented: "If this reasoning is sound the courts throughout the United States would have to abandon the use of this long established method of determining the value of many commodities. It is obvious that this phrase does not connote one set price."

"The fact that this price may fluctuate each day or each week does not mean that the scrap iron and similar stocks, bonds, grain, coffee and other commodities which are bought and sold, do not have a fair market value. It must be presumed that the parties to the agreement who bought and sold scrap iron for many years, knew and accepted this term as a

reasonable method of purchase and sale under the contract."

Mose Cohen & Sons, Inc. v. Kuhr, 171 N.E.2d.207, Ohio, August 29, 1959

Union's Fish Deal Gets Caught in Sherman Act

When a Hawaiian fishpacking company sued a local of the International Longshoremen and Warehousemen Union for violating the Sherman Antitrust Act, the union sought dismissal of the action. As a labor union, it claimed, it was not subject to the provisions of the act. The court, however, did not agree.

Precipitating the action, fishing boat crews who were members of the union had conspired with various boat owners to fix the market price of tuna fish in order to give the local and its members a monopoly of that trade.

Disposition of the application was made by the federal court with the assertion, "The argument that the Sherman Act was never intended to apply to labor unions is historically interesting. But the record shows that it was not judicially accepted."

"Is this a case that can be said to 'involve or grow out of a labor dispute?' And if it is, by joining with 'some employers' has the

union's statutory protection been lost?"

"In our opinion the alleged facts do not state a case which can be said to involve or grow out of a labor dispute. While it is now beside the point in a labor dispute that the parties do not stand in relation to one another as employer and employee, nevertheless the immunization against judicial interference for cause is conditioned upon the existence of a labor dispute over 'terms or conditions of employment or concerning the association or representation of persons in negotiating, fixing, maintaining, changing or seeking to arrange terms or conditions of employment.'"

"Here no dispute as to the terms and conditions of employment exists upon the alleged facts between the crew members of the tuna boats and their employer, the boat owners. This is solely a dispute over the price of fish."

Hawaiian Tuna Packers v. International L. and W. Union, 72 F.S. 562, Hawaii, July 15, 1947

Unidentified Signature Makes Individual Liable

The purchaser of a hydraulic power cutter described the equipment in a letter, followed by the terms of sale and the name of the

purchasing corporation. Below that name was the statement: "We wish to order this equipment as specified above," and signed "Fred Sago," individually.

Signature Is Important

When the seller sued the individual rather than the corporation of which he was an official, the defense contended that this signature was that of the president of the company and not the individual signature of Fred Sago.

"If one signs his name to a simple contract without designating that he does so as an officer or agent or in representative capacity acting for and in behalf of another," said the court in its decision, "the principal's name not appearing in the instrument as principal of the person signing, the one signing is personally liable on a contract so signed. Otherwise every agreement bearing an individual signature might be questioned and the door opened to fraud."

Sago v. Ashford, 358 Pac. 2d 599, Colo., Jan. 16, 1961

Exclusive Agencies Don't Violate Antitrust Laws

When two automobile agencies in Baltimore recently sued a manufacturer for alleged violation of the antitrust laws, the action was dismissed by the federal court on

the ground that no such violation had been shown.

The manufacturer had urged an automobile distributor, then dealing in the cars of another producer, to establish an agency for its cars in the Baltimore area. Three years later, the manufacturer had granted another automobile dealer in an adjacent section of the city a similar franchise.

Several years later, while these dealers were both conducting a successful business, a third and competitive dealer opened a salesroom for cars of the same make. The manufacturer had assured the two earlier dealers that their agency agreements would continue. Nevertheless at their expiration, the contracts were not renewed.

Dealers Sue for Damages

Both dealers then sued, contending that the refusal to renew these agency agreements was a violation of the federal antitrust laws and that under those laws they were entitled to three times the damages they had suffered.

"Every manufacturer has a natural and complete monopoly of his particular product, especially when sold under his own private brand or trade name," said the court in denying these dealers a recovery. "If he is engaged in a private business he is free to exploit this monopoly by selling his

product directly to the ultimate consumer or through one or more distributors or dealers as he may deem most profitable to him.

"If he chooses the latter method he may exercise his own independent discretion as to the parties with whom he will deal. This is a common law right which the antitrust laws have not destroyed. A refusal to deal becomes illegal only when it produces an unreasonable restraint of trade or a monopoly forbidden by the antitrust laws.

Court Doesn't Bar Monopolies

"An exclusive agency or dealership necessarily involves a limited monopoly, to sell the product of the manufacturer in the area covered by the exclusive agreement. Such limited monopolies are not invalid unless they are used to violate the antitrust laws. They may not be used to extend the producer's monopoly into other fields.

"But the mere fact that such an agreement necessarily gives the dealer a monopoly in handling the product of the particular manufacturer in a given area and thereby enables the dealer to dictate the price at which the products of that manufacturer shall be sold in that area, subject to competition with the products of other manufacturers, does not condemn such agreements, otherwise all exclusive agency agreements would be illegal in themselves."

Schwing Motor Co. v. Hudson Sales Corp., 138 F.S. 899, Md.

Joint Export Venture Said to Restrict Trade

In an action before the United States Supreme Court, the U.S. government charged that the Timken Roller Bearing Co., Bristol Timken, Ltd., and Societe Anonyme Francaise Timken had combined and conspired to restrain interstate and foreign commerce by the elimination of competition in the manufacture and sale of anti-friction bearings.

It charged further that under these agreements the manufacturers had allocated trade terri-

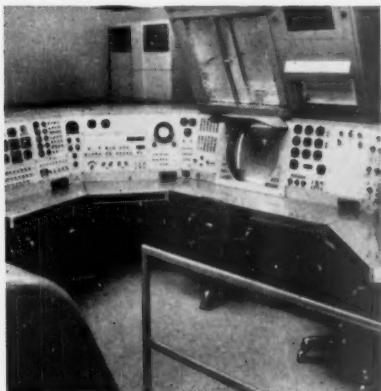
(Please turn to page 140)



"Every manufacturer has a natural and complete monopoly of his particular product."

MATERIALS-HANDLING NEWS

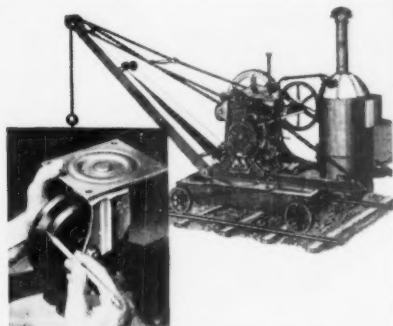
NEW AND UNUSUAL APPLICATIONS OF BASSICK CASTERS THAT MIGHT BE ADAPTED TO YOUR HANDLING PROBLEMS



Famous Link trainer rolls on Bassicks

Both the consoles and the instructors' office chairs of this Link simulator for the Air Force's F106A All-Weather Interceptor Aircraft roll on Bassick casters.

The trainer is making it easier and faster for the Air Force to turn out accomplished pilots in every phase of F106A operations—from take-off through intercept, attack and return to base. And this is just one of the vital defense projects Bassick casters are aiding.



Grandpappy was "in the groove," too

This steam crane, from a mechanical dictionary of 85 years ago, was capable of handling up to 80 tons. Note that it moved, despite the tremendous weight involved, on grooved wheels similar to those of famous Bassick "Grooved-Wheel" casters (above) of today. Bassick grooved-wheels move on simple inverted angle-iron tracks for maximum load capacity and can also be used directly on the floor.



600 Bassicks survive 3 years at hard labor

...with only 6 tire replacements, and only 12 spring replacements

Ride now, walk later



These shoe uppers, at Endicott Johnson Corporation, ride in style on this Bassick caster equipped rack. The Bassick "H99" casters used here feature non-marking "Atlasite" wheels.

The female threaded pipe socket, adapting the double ball bearing swivel caster to the rack, is only one of a wide variety of plate and stem constructions available.

Here's a record we're proud of:

The casters on these trucks, used for moving oil drums at Socony Mobil's Paulsboro, N. J., Refinery have seen three years of hard use traveling approximately 2,000 miles a year under loads generally as high as 4,000 pounds per cart. During that time only six caster tires and only 12 springs have had to be replaced.

The casters used are 10" Bassick Series "FS" swivel and "FT" rigid—designed especially for power-towing applications with a 7" swivel bearing diameter.

There are other pluses too: Socony engineers say the shock absorbing "Floating Hubs" have reduced noise levels and have practically eliminated packages falling off the trailers.

Can "Floating Hubs" solve a handling (or maintenance) problem in your plant?

See your Bassick Distributor . . . he gets around and learns the latest materials-handling techniques. He can help you with Bassick casters. And he keeps the most popular Bassick casters in stock for immediate delivery.

1.45

THE
BASSICK COMPANY
BRIDGEPORT 5, CONN.
IN CANADA:
BELLEVILLE, ONT.



Bassick
A DIVISION OF
STEWART-WARNER CORPORATION



One in a series of performance studies of Armour Coated Abrasives





ARMOUR

coated abrasives work for Foxboro

...exceed performance standards by 25%

"We have used Armour coated abrasive belts exclusively for seven years because our own annual tests prove that they give far better service in every application," says Mr. Harold Twigg, finishing department superintendent, The Foxboro Company, Foxboro, Massachusetts.

"An example is the polishing of the doors of this instrument case. In our production run tests this year, our standard was 180 pieces per belt on the first rough cut. The Armour belt polished 225 pieces. Another example is the finish cut. Our standard is 100 pieces per belt. The Armour belt polished 125," he reports.

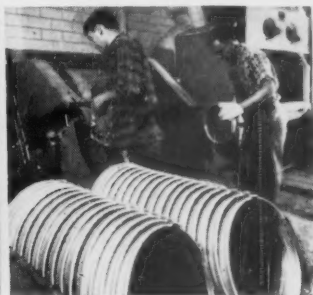
Production standards at Foxboro are the result of years of accumulated experience. And, like other leading manufacturers throughout industry, Foxboro's experience leads them to choose Armour Coated Abrasives for extra performance.

How long has it been since you've tested Armour Coated Abrasives? Our standing offer is—put Armour to work on your toughest, most demanding job. Then look at the improved results—more production, higher quality, less cost.

There is an Armour Coated Abrasive distributor near you. He's ready and willing to meet your most strict requirements. And he's backed by Armour technical help and more than sixty years' growth in coated abrasives technology. If you'd like a detailed technical report on The Foxboro Company's experience, write for data sheet M-100, Armour Alliance Industries, Coated Abrasives Division, Alliance, Ohio.



Precision "movement" parts are fed through grinder. Door normally closed is open to show Armour Abrasive belt. Armour Abrasives help The Foxboro Company maintain their standard "piano" finish of a fine concert grand.



Armour Coated Abrasives used in polishing die cast door and ring. Both are components of cases which protect precision Foxboro instruments against adverse conditions in chemical plants, paper mills and oil refineries.

the new
Armour and Company

For More Facts Write No. 202 on Information Card—Last Page

Cut Costs—Not Hands

Hand injuries cost industry millions of dollars annually. Selection of the proper glove can sharply reduce these costs. Here's an analysis of how inexpensive terry cloth gloves may provide good protection and long wear.

By Robert B. Medvin

APPROXIMATELY 25% of all industrial injuries, at an average cost of \$345, are suffered by the human hand. In 1960 alone, there were over a half million occupational injuries to hands and fingers—costing industry more than \$173 million and millions of lost man-hours.

An important factor in reducing such costly injuries is the selection of the most appropriate glove for the job. Correct selection is equally important in keep-

ing glove costs down.

This is especially applicable to gloves made of terry cloth fabrics. The biggest percentage of industrial gloves purchased are made of leather or leather combined with cotton canvas. Yet terry cloth gloves not only cost considerably less, but in many applications will wear longer than leather and give more protection.

Terry cloth is a looped-pile cotton fabric on a backing that holds the pile in place. Industrial gloves

are usually made of 22 ounce and 24 ounce fabrics. The backing is the same for each—the difference is in the thickness of the pile.

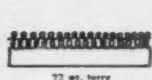
Protects Against Sharp Blows

Like a carpet, the greater the pile, the longer wear you get and the greater protection offered. Once the backing is penetrated, the glove breaks down and must be discarded. Thus the extra two ounces of a 24 ounce fabric added to the pile provides about 10% more wear than a 22 ounce fabric with the same backing.

This pile is composed of thousands of tiny raised loops which lock pockets of air into the fabric and keep it springy. Unlike most glove fabrics which are relatively firm, terry is able to "give", like a smart fighter who "rolls" with a punch. Because of this "give", terry cloth gloves offer excellent protection against sharp blows and rough surfaces. The springy pile, with its cushion of air, absorbs and softens a great portion of the impact. In the same manner, terry cloth gives greater protection

(Please turn to page 96)

WHY USE TERRY CLOTH GLOVES?



22 oz. terry



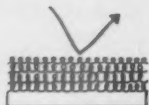
24 oz. terry



Leather



24 oz. terry



The extra pile on 24 ounce terry fabrics gives 10% more wear than 22 ounce terry fabrics.

Terry absorbs sharp edges, while leather offers a firm, easily cut surface.

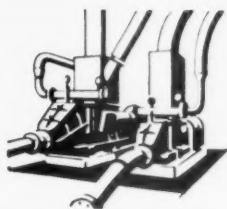
Thousands of air cells in terry gloves provide insulation from dry heat.

Terry gloves need less frequent replacement because they are washable, remain flexible.

Mr. Medvin is a free-lance writer who has contributed numerous articles on industrial subjects.

FULLER EQUIPMENT

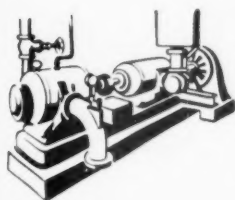
for the process industries



bulk materials pneumatically. Fuller-Kinyon

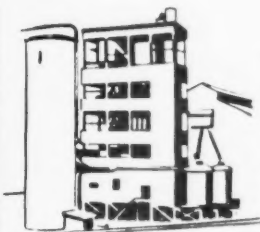
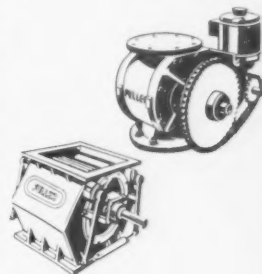
Pneumatic Materials Handling Systems. Widely specified throughout the process industries, Fuller's range of equipment offers best single source for solving problems in moving dry

Pumping Systems, Airveyor® Pressure and Vacuum Conveying Systems, and F-H Airslide® Fluidizing Conveyors are completely sealed to prevent both contamination of the product and any leakage of dust, etc., into the surrounding area. They are used to move dry, granular and pulverized materials to and from cars, ships, trailers, storage and processing points.



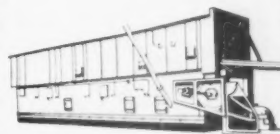
Fuller Rotary Compressors and Vacuum Pumps are vibration-free, can be installed anywhere, even on balconies. Fewer moving parts mean minimum maintenance. Compressors and Vacuum Pumps handle air and gases from 30 to 3300 cfm at pressures to 125 lb. gage. Vacuums to 29.95 in. (referred to 30-in. barometer).

Fuller Vane-type and Roll Feeders . . . for volumetrically controlled feeding of a wide range of dry pulverized or granular materials. Also Fuller Rotary Valves . . . used under silo deck slabs and bins to permit the free flow of pulverized materials which tend to arch, such as lime and cement raw materials.



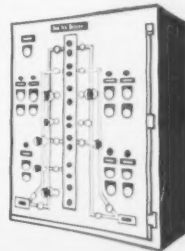
Fuller Preheaters, Humboldt Suspension Type . . . for preheating dry, pulverized Portland cement raw materials with rotary kiln waste gases.

Fuller Horizontal and Inclined Grate Coolers are compact, easily installed for fast, efficient cooling of materials such as nodulized phosphate rock, pebble lime, ores, dolomite, iron nodules and Portland cement clinker from 2800°F. or higher to any desired point within a reasonable range of atmospheric temperature.



Fuller-Material-Level Indicators signal audibly and visibly when materials reach a predetermined high or low level. Controls conveyor motors, valve circuits, etc.

Fuller Control Panels permit automatic, remote, one-man control of multiple operations. Easily-read panel permits visualizing flow of material to storage or from process bins.



Fuller equipment is designed to help give you maximum efficiency at minimum cost. Send today for more detailed literature.

See Pit & Quarry Handbook for further details and specifications



FULLER COMPANY

170 Bridge St., Catasauqua, Pa.

Subsidiary of General American Transportation Corporation

Offices in Principal Cities Throughout the World

Fuller

... pioneers in harnessing AIR

For More Facts Write No. 204 on Information Card—Last Page

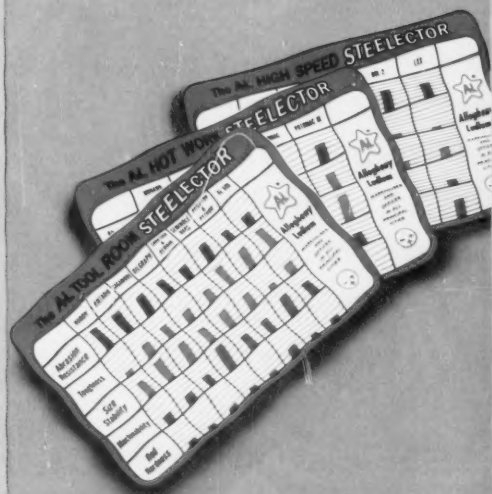
End Your Tool Steel Problems with the A-L STEELECTOR System

Save Selection Time, Insure Accuracy, Cut Inventory Costs

If you started using the new Allegheny Ludlum STEELECTOR Program first introduced last year, you know what savings it can bring. If you didn't, your competitors may have stolen a march on you.

There are many advantages in the STEELECTOR system. Perhaps most important is the savings in selection time. No longer need anyone spend hours in tool steel selection. By using one of the STEELECTOR Cards, an accurate selection can be made virtually at a glance. In seconds you can choose the tool steel grade with the particular combination of red hardness, abrasion resistance, size stability, toughness, and machinability required by the job at hand.

You can select STEELECTOR tool steels with confidence—they are always in stock. You don't have to stockpile tool steel. Instead, by relying on Allegheny Ludlum material and using STEELECTOR grades, you can reduce the variety of tool steels in your inventory. You reduce problems because the STEELECTOR offers the tool steels that are right for your jobs, eliminates those that contribute nothing but confusion.



STEELECTOR Cards Save Selection Time

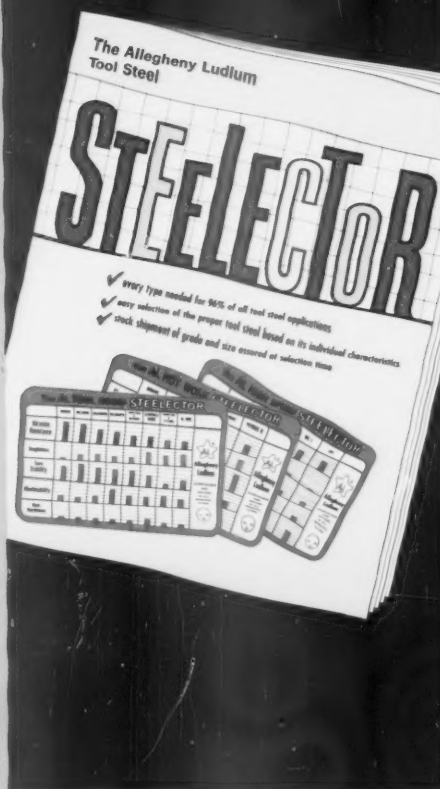
The three STEELECTOR Cards insure that you will pick the right tool steel for every application. Each STEELECTOR Card (there are cards for tool room, hot work, and high speed applications) uses bar graphs to indicate the relative abrasion resistance, toughness, size stability, machinability, and red hardness of the STEELECTOR grades. You can select the best combination of properties for the job at hand virtually at a glance.

STEELECTOR tool steels will meet your job requirements. You can clean house with the STEELECTOR Program. No longer need your stockroom be cluttered with small stocks of scores of grades. No longer need you find yourself holding grades that require different processing, yet give the same results. And you never need to worry about running short. Allegheny Ludlum STEELECTOR grades are always in stock.

STEELECTOR Program Ends Supply Problems

Huge warehouse stocks back up Allegheny Ludlum's STEELECTOR Program. You know before you order that the grade you have selected is in stock, in the size you choose. Here's how the STEELECTOR System works:

First, you select the right tool steel for your job by using a STEELECTOR Card. Then you check the STEELECTOR Data Stock List for the particular grade selected best for your job. (There is a List for each of the 18 STEELECTOR grades.) All sizes and shapes in stock are listed along with hardening, tempering, and annealing temperatures. The List also gives the typical analysis of the steel, its AISI number, and describes its properties. Typical applications are listed along with suggested working hardnesses to confirm your selection.



Free Booklet Explains the STEELECTOR System

You will find a complete description of the STEELECTOR Program in this colorful 10-page Allegheny Ludlum booklet. It tells how the STEELECTOR System helps you pick the right tool steels, save time, and end your supply worries.

Each of the STEELECTOR grades is listed in the booklet along with its description, applications, and AISI type number. Included are three handy STEELECTOR Cards that will save you time in picking the right steel for tool room, hot work, and high speed applications. Everyone who helps select tool steel needs this booklet. For your free copy ask your A-L representative, or write: Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pennsylvania. Address Dept. TS12.



What Can The A-L STEELECTOR Program Do For You?

Whether you are president, purchasing agent, stock room supervisor, engineer, or heat treater, you will find the STEELECTOR System can save you time, reduce costs, and make your job easier. Check this list and see how the STEELECTOR System can help you:

Owner, president or vice president. Reduces costs in warehousing, purchasing, and inventorying. Insures selection of the right tool steel—prevents misapplication and wrong heat treatment.

Operating man, superintendent, foreman, production control man. Ends availability problems. Large local warehouse stocks enable your in-plant stocks to be reduced. Consistent high quality.

Engineer or metallurgist. Speeds selection of the right tool steel . . . saves the time formerly spent in selection for jobs that need it.

Specifier, designers, tool room man. Assures you of the availability of the size and grade you need. Only 18 grades to consider for 96 percent of all applications.

Stock room supervisor. Saves storage space because fewer grades need to be stocked. Ordering is simplified and paperwork reduced.

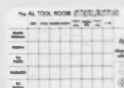
Heat treater. Helps you operate furnaces more profitably—more tools can be treated at a time.

Purchasing agent. Reduces paperwork and inventory needs.

To learn of all the benefits of the A-L STEELECTOR System, ask for the STEELECTOR booklet described in the adjoining column.

3297

ALLEGHENY LUDLUM



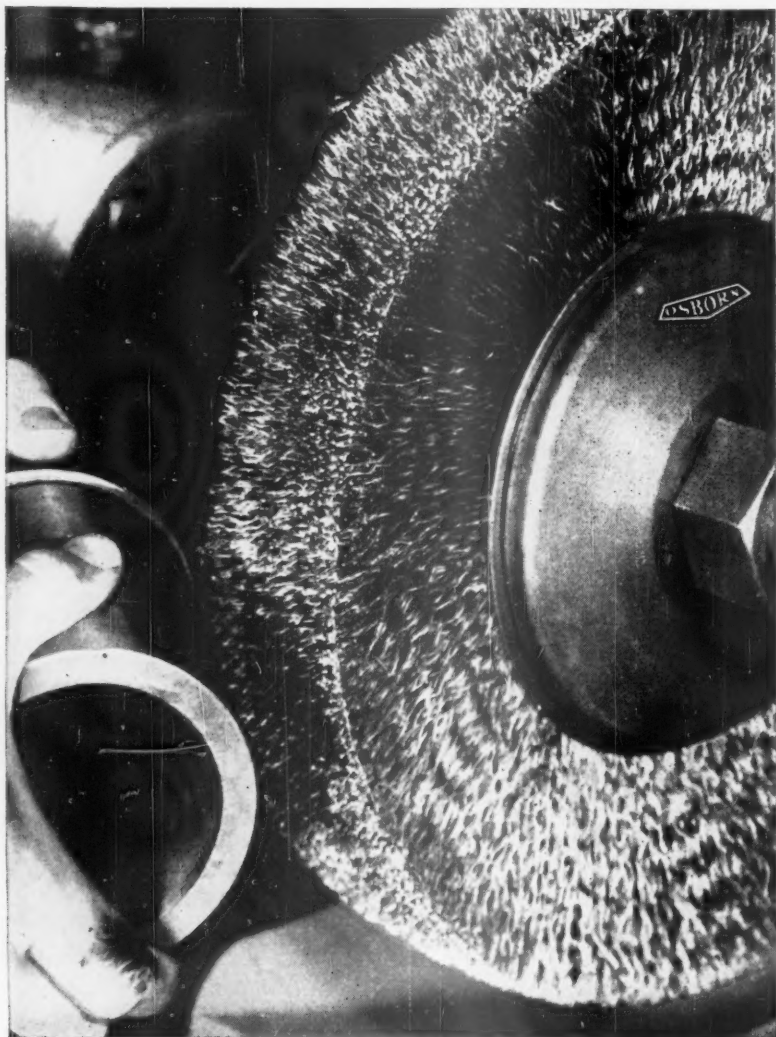
THE BIG DIFFERENCE IN A BRUSH IS THIS NAME ON A BRUSH

When you buy brushes that carry the Osborn name, there's no guesswork. You *know* the quality is there. Osborn quality always pays off . . . jobs are done better, quicker, less expensively.

For over 68 years Osborn has made the widest range of fine power, paint and maintenance brushes available anywhere. And even at this moment, the search for improved products is going on at Osborn to make the best even better. For your copy of our new catalog—write or call *The Osborn Manufacturing Company, Department U-70, 5401 Hamilton Avenue, Cleveland 14, Ohio. Phone ENdicott 1-1900.*



Metal Finishing Machines . . . and Finishing Methods
Power, Paint and Maintenance Brushes • Foundry Production Machinery



For More Facts Write No. 205 on Information Card—Last Page

Products

(Continued from page 92)

against sharp cutting edges.

Because of the thousands of tiny air pockets, terry cloth gloves will also give greater protection against dry heat. These air pockets work on the same principle as Thermopane and provide excellent insulation while still keeping the glove soft and supple. Like a towel, however, terry absorbs moisture and only affords this protection against dry heat. Where moist heat is a problem, other type gloves are required.

Won't Scratch Surfaces

Another basic advantage of terry fabrics: they protect the product as well as the hands. The soft, springy loops will not scratch or mar highly polished surfaces. This can be particularly important when working with glass or metal.

Not only do these versatile gloves cost less money, but they save on replacement costs as well. They can be washed and used many times while still retaining maximum flexibility. The gloves are kept soft and comfortable at all times.

In addition, many styles are reversible—another excellent economy measure. Some jobs put more stress on one hand, wearing out one glove faster than the other. Reversible gloves are constructed so that they can be worn on either hand. When one glove wears out, there is no need to discard the entire pair, only the worn out glove has to be replaced.

Many Fabrics Available

Although terry cloth gloves have many advantages for particular jobs, they are not a cure-all for every problem. Work gloves are made of many fabrics and in hundreds of styles and variations to fulfill their purpose of providing maximum protection at minimum cost.

The supplier with the overall line is therefore in the best position to give you the right glove for any operation. This could be terry, leather, canvas, jersey, rubber coated, plastic coated, vinyl impregnated, or anything else you may need.



**Looking for a way to get
Bearing Replacements
FASTER?**

**. . . or to make them
last longer?**

Select ROLLWAY® ... it's your one best way!

Rollway's 400 Distributors are carefully stocked and located to give you off-the-shelf service. Or, where distance requires, to ship by overnight truck, train or plane.

Rollway Solid-Cylindrical Roller Bearings are the made-to-order solution for replacement bearing problems. Engineered for specific service in a wider range of applications, the Rollway line offers a single source for light - or - heavy - duty precision radial and thrust bearings . . . for economical, utility-

type Tru-Rols® . . . for low-cost inch and metric steel cage assemblies.

In application after application, field experience proves that actual service-life of Rollway Bearings clusters near the far end of the expectancy tables. You not only get replacements *faster* . . . you get replacements that *last longer*!

- Ask your Distributor for a complete product line bulletin. Or write direct to Rollway Bearing Company, Inc., Syracuse, N. Y.

You can depend on

ROLLWAY®
BEARINGS



ENGINEERING OFFICES: Syracuse • Boston • Chicago • Detroit • Toronto • Pittsburgh • Cleveland • Seattle • Houston • Philadelphia • Los Angeles • San Francisco

For More Facts Write No. 207 on Information Card—Last Page

DECEMBER 18, 1961

TO INSURE SUCCESSFUL PERFORMANCE

EVERY **GRAMIX[®]** PART IS
(PRODUCTS OF POWDER METALLURGY)

APPLICATION ENGINEERED



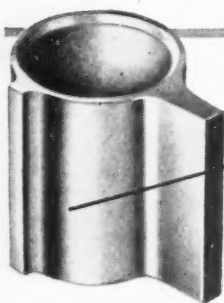
One of the most important factors to consider when purchasing powder metal parts is that of successful part performance; for a part to successfully perform its job, all of its physical and metallurgical characteristics must be suited to the application.

GRAMIX Products of Powder Metallurgy are always *Application Engineered*, which means product is specially matched to each specific application. From an almost unlimited variety of metal mixtures, one alloy is blended that contains the required properties and characteristics of the finished part; *all* aspects of part design

and conditions under which it must operate are taken into account. Only then is the GRAMIX part produced.

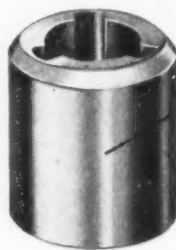
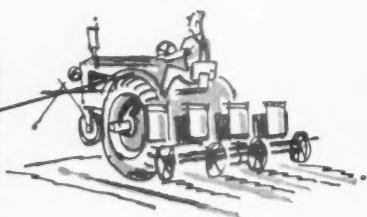
Eight of these *Application Engineered* GRAMIX parts are shown here. Each precisely suits the requirements of its job . . . each is the best part available for the job.

When you specify a GRAMIX part, you can always be sure that it has been *Application Engineered* for successful performance, long life and complete reliability. For more information on *Application Engineered* GRAMIX parts, write for Engineering Handbook G-55.



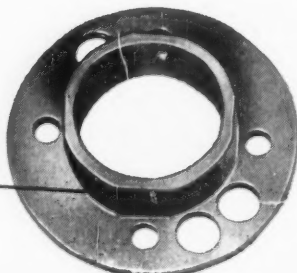
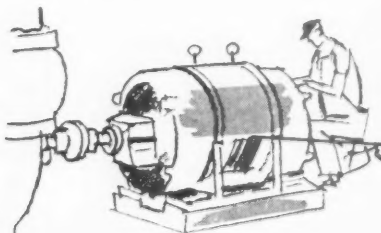
CORN SEEDER

GRAMIX was the material specified for this corn seeder part because the surface finish obtainable with the alloy used reduced the tendency of material to 'stick to the surface.



CONNECTING COUPLING

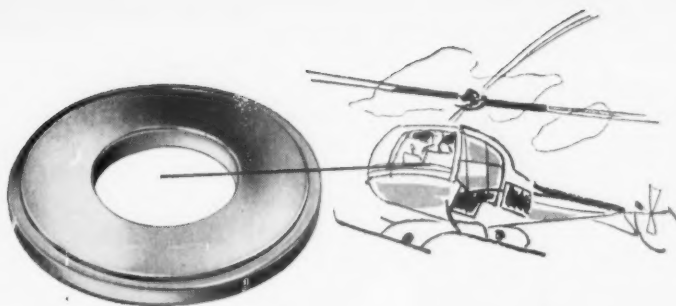
The connecting coupling employed in a small home ironer is formed from a special GRAMIX hardened steel alloy; it offers low wear and shock resistance.



CONTAINER COVER END CAP

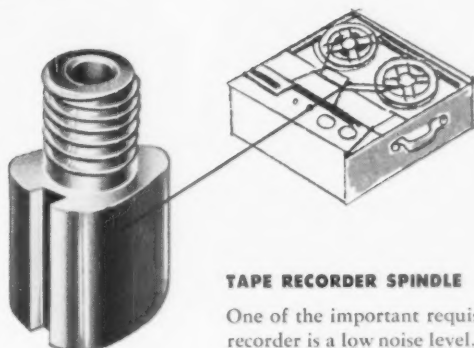
Great savings were realized when retainer caps for certain types of electric motors were made of GRAMIX.

This process made it simple and economical to mold the multiple holes to precise tolerances without extra operations.



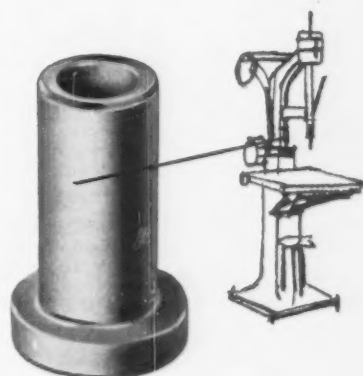
HELICOPTER THRUST WASHER

The outstanding features of the GRAMIX alloy specified for this thrust washer are a dependable and consistent friction and wear pattern as well as a fine surface finish.



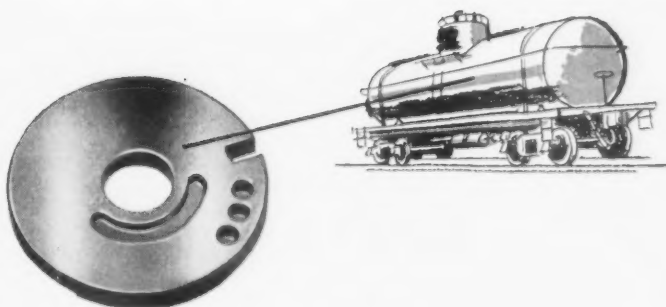
TAPE RECORDER SPINDLE

One of the important requisites in a tape recorder is a low noise level. United States Graphite Company engineers developed a special alloy to meet these requirements in the GRAMIX spindle.



GUIDE BEARING

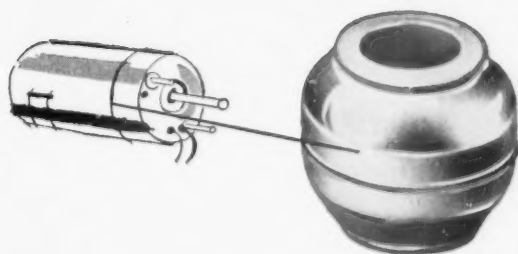
Built-in lubrication and low friction to reduce heat are important features of the GRAMIX alloy chosen for this guide bearing.



LIQUID PUMP END PLATE

This end plate is typical of many parts employed in liquid pumps of many types.

It is made from a wear resistant bronze alloy that was developed for pump applications.



FRACTIONAL H.P. MOTOR

The GRAMIX bearing for this Fractional h.p. motor was developed from a special low noise level alloy.

Its self-lubricating properties were also an important consideration in specifying GRAMIX.



X-296-2

THE UNITED STATES GRAPHITE COMPANY



DIVISION OF THE WICKES CORPORATION, SAGINAW 15, MICHIGAN
 GRAPHITAR® CARBON-GRAPHITE • GRAMIX® POWDER METALLURGY • MEXICAN® GRAPHITE PRODUCTS • USG® BRUSHES

Products

Protective Coating Puts Rust to Work

A protective coating which is a rust converting primer "puts rust to work." Applied by brush or spray to any rusted ferrous metal or galvanize, primer penetrates to the base metal and lays down an iron phosphate coating that completely severs all contact between rust and metal. Rust is actually converted into iron phosphate, then coating creates a moisture-proof primer that effectively prevents future rusting. Action eliminates need for separate primer coat. Coating is used to repair rusted galvanized and ferrous metals and to prevent rusting of new materials and products. Because it does not affect sound painted or galvanized surfaces, it is ideal for spot repair work. Surface preparation is limited to simple degreasing and this only under extreme conditions. **Industrial Metal Protectives, Inc., 401 Homestead Ave., Dayton 8, Ohio.** Write No. 18 on Information Card—Last Page

Conduit Fitting Line Is Completely Redesigned



A line of die-cast copper-free aluminum conduit fittings has been completely redesigned and modernized. Lighter fittings provide greater internal room for easier wiring; self-retaining cover screws for rapid assembly; long hubs for firm wrench grip; taper-tapped, full-cut threads for rigid joints, and integral bushing for easy pulling of conductors. Copper-free aluminum alloy units resist both chemical and galvanic

corrosion. UL listed and CSA approved fittings come in wide selections of types and sizes from 1/2 to 4 in., with complete selection of wiring devices. **Crouse-Hinds Co., Syracuse 1, N. Y.**

Write No. 19 on Information Card—Last Page

Assembly Bin Rack Gives Top Productivity



An assembly bin rack which is designed to provide maximum work station productivity holds rows of seven plastic or steel assembly bins in semicircle. Number of rows varies with needs.

WORKERS LIKE **STANZOIL®** DUPLEX GLOVES FOR
KNIT-LINED

Comfort

Hands are safe from heat, cold, chemicals, or abrasion in these Pioneer work gloves, and you're assured they'll stay on because they're comfortably lined with interlock knit cotton. Coatings of neoprene or Pylox™ protect against liquid penetration. See these and all the rest of Pioneer's 65 glove styles in your free copy of the Pioneer Industrial Glove Catalog. Write for yours.

PI PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio
For More Facts Write No. 209 on Information Card—Last Page

NIMBLE FINGERS® FOR PRODUCT CARE WITH A PLUS

...Barehand Sheerness

Surgical sheerness of Nimble Fingers maintains worker dexterity and speed on intricate work, while protecting products from handling. Of sulphur-free, liquid-proof Pylox™; textured inner surface provides non-slip grip when reversed. In S, M, L, and XL sizes. The choice of any industrial glove is easier with the help of the Pioneer Glove Selector; write for your free copy.

PI PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio
For More Facts Write No. 210 on Information Card—Last Page

Design permits fast, easy, flexible set-up without tools or fasteners. Individual bins, with full front card holder for easy identification of contents, can be removed, re-filled and returned without disturbing others. **Stackbin Corp., 1100 Main St., Pawtucket, R.I.**

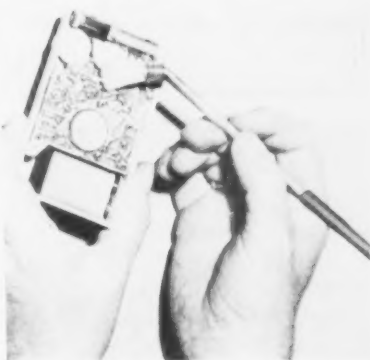
Write No. 20 on Information Card—Last Page

Stainless Roofing Resists Weather, Corrosion

Stainless steel corrugated roofing and siding in a non-reflective, semi-lustrous satin finish is low in cost and non-magnetic. Sheet is said to be superior in weathering properties to any offered commercially today. Roofing sheets are fabricated in $2\frac{1}{2} \times \frac{5}{8} \times 33$ in. nominal width, .0178 inches thickness (equal to 26 gauge steel thickness). Siding sheets are $2\frac{1}{2} \times \frac{1}{2} \times 34$ in. nominal width. Sheets are produced to any length required, limited only by truck and rail facilities. **Steelite Buildings, Inc., 239 Fourth Ave., Pittsburgh 22, Pa.**

Write No. 21 on Information Card—Last Page

Tiny Air Brush Cleans Intricate Mechanisms



A long-stem miniature brush which is equally suitable for air pressure or vacuum cleaning cleans minute particles from intricate mechanisms such as electronic components. Narrow brass stem is bent to a 45° angle at brush end thereby enabling operator to reach areas that otherwise would be inaccessible. When the nylon bristles become worn, a new head can be inserted. **Weiler Brush Co., Inc., 2129 Lake Front Lane, Cresco, Pa.**

Write No. 22 on Information Card—Last Page



Dryer baffle Custom molded by CMPC

APPLICATION: Molded baffles hold "feelers" that signal the electronic "brain" of Maytag's new Automatic Dryer. The 3 baffles are compression molded cotton flock-filled phenolic.

ADVANTAGES: There's no more guesswork or possibility of overdrying clothes with this new dryer. An electronic control actually feels the degree of moisture in fabrics—shutting the dryer off at the exact moment, or starting a controlled cool-down period of tumbling. Key components in this outstanding development are the baffles to which the minute "feelers" are attached. Long life and efficiency of the CMPC-molded baffles are achieved by great resistance to moisture, heat and impact. Specify CMPC... custom plastic molders for over 40 years.

CMPC CHICAGO MOLDED PRODUCTS CORPORATION

1020-J N. KOLMAR AVE. CHICAGO 51, ILLINOIS

CHEMICAL RESISTANT **STANZOILS®** FOR EXCLUSIVE

Non-Slip Grip

Stanzails are made for job conditions that include handling wet, slippery objects in oils, greases, acids, caustics, or solvents. Exclusive non-slip grip is actually safer, surer than bare hands. Milled neoprene has greater tensile strength, tear-resistance and withstands chemicals which ruin ordinary rubber. In black or white. Complete range of sizes, styles, weights and lengths shown in pocket catalog. Write today.

PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 211 on Information Card—Last Page

ABRASION-RESISTANT **STANFLEX®** GLOVES FOR

Flexible

HAND FREEDOM

Here's the first liquid-proof, abrasion-resistant work glove tailored to provide dress glove hand freedom. Tough blue Pylox™ coating permanently bonded to soft 8-ounce jersey outwears both cloth and leather gloves; provides lowest cost-per-hour of use in many abrasive jobs. In knit wrist, 10" band top, 12" and 14" gauntlet; short styles available with ventilated back. Write for free Glove-Style Wall Chart.

PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 212 on Information Card—Last Page

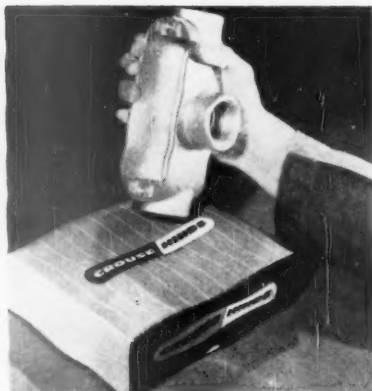
Products

Protective Coating Puts Rust to Work

A protective coating which is a rust converting primer "puts rust to work." Applied by brush or spray to any rusted ferrous metal or galvanize, primer penetrates to the base metal and lays down an iron phosphate coating that completely severs all contact between rust and metal. Rust is actually converted into iron phosphate, then coating creates a moisture-proof primer that effectively prevents future rusting. Action eliminates need for separate primer coat. Coating is used to repair rusted galvanized and ferrous metals and to prevent rusting of new materials and products. Because it does not affect sound painted or galvanized surfaces, it is ideal for spot repair work. Surface preparation is limited to simple degreasing and this only under extreme conditions. **Industrial Metal Protectives, Inc., 401 Homestead Ave., Dayton 8, Ohio.**

Write No. 18 on Information Card—Last Page

Conduit Fitting Line Is Completely Redesigned

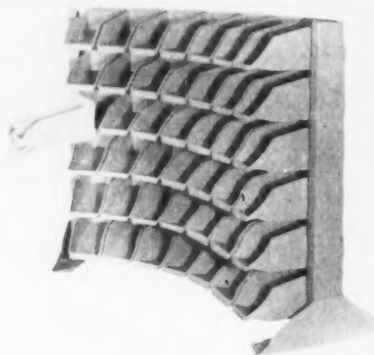


A line of die-cast copper-free aluminum conduit fittings has been completely redesigned and modernized. Lighter fittings provide greater internal room for easier wiring; self-retaining cover screws for rapid assembly; long hubs for firm wrench grip; taper-tapped, full-cut threads for rigid joints, and integral bushing for easy pulling of conductors. Copper-free aluminum alloy units resist both chemical and galvanic

corrosion. UL listed and CSA approved fittings come in wide selections of types and sizes from 1/2 to 4 in., with complete selection of wiring devices. **Crouse-Hinds Co., Syracuse 1, N. Y.**

Write No. 19 on Information Card—Last Page

Assembly Bin Rack Gives Top Productivity



An assembly bin rack which is designed to provide maximum work station productivity holds rows of seven plastic or steel assembly bins in semicircle. Number of rows varies with needs.

WORKERS LIKE **STANZOIL®** DUPLEX GLOVES FOR
KNIT-LINED

Comfort

Hands are safe from heat, cold, chemicals, or abrasion in these Pioneer work gloves, and you're assured they'll stay on because they're comfortably lined with interlock knit cotton. Coatings of neoprene or Pylox™ protect against liquid penetration. See these and all the rest of Pioneer's 65 glove styles in your free copy of the Pioneer Industrial Glove Catalog. Write for yours.

PI  **NEER**

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 209 on Information Card—Last Page

NIMBLE FINGERS® FOR PRODUCT CARE WITH A PLUS

...Barehand Sheerness

Surgical sheerness of Nimble Fingers maintains worker dexterity and speed on intricate work, while protecting products from handling. Of sulphur-free, liquid-proof Pylox™; textured inner surface provides non-slip grip when reversed. In S, M, L, and XL sizes. The choice of any industrial glove is easier with the help of the Pioneer Glove Selector; write for your free copy.

PI  **NEER**

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 210 on Information Card—Last Page

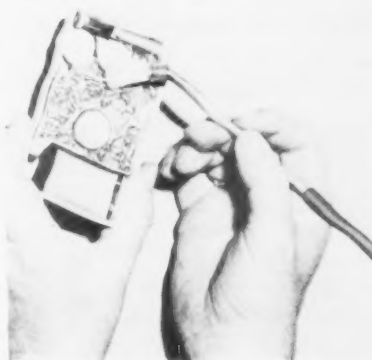
Design permits fast, easy, flexible set-up without tools or fasteners. Individual bins, with full front card holder for easy identification of contents, can be removed, re-filled and returned without disturbing others. **Stackbin Corp., 1100 Main St., Pawtucket, R.I.**
Write No. 20 on Information Card—Last Page

Stainless Roofing Resists Weather, Corrosion

Stainless steel corrugated roofing and siding in a non-reflective, semi-lustrous satin finish is low in cost and non-magnetic. Sheet is said to be superior in weathering properties to any offered commercially today. Roofing sheets are fabricated in $2\frac{1}{2} \times \frac{5}{8} \times 33$ in. nominal width, .0178 inches thickness (equal to 26 gauge steel thickness). Siding sheets are $2\frac{1}{2} \times \frac{1}{2} \times 34$ in. nominal width. Sheets are produced to any length required, limited only by truck and rail facilities. **Steelite Buildings, Inc., 239 Fourth Ave., Pittsburgh 22, Pa.**

Write No. 21 on Information Card—Last Page

Tiny Air Brush Cleans Intricate Mechanisms



A long-stem miniature brush which is equally suitable for air pressure or vacuum cleaning cleans minute particles from intricate mechanisms such as electronic components. Narrow brass stem is bent to a 45° angle at brush end thereby enabling operator to reach areas that otherwise would be inaccessible. When the nylon bristles become worn, a new head can be inserted. **Weiler Brush Co., Inc., 2129 Lake Front Lane, Cresco, Pa.**

Write No. 22 on Information Card—Last Page



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APPLICATION: Molded baffles hold "feelers" that signal the electronic "brain" of Maytag's new Automatic Dryer. The 3 baffles are compression molded cotton flock-filled phenolic.

ADVANTAGES: There's no more guesswork or possibility of overdrying clothes with this new dryer. An electronic control actually feels the degree of moisture in fabrics—shutting the dryer off at the exact moment, or starting a controlled cool-down period of tumbling. Key components in this outstanding development are the baffles to which the minute "feelers" are attached. Long life and efficiency of the CMPC-molded baffles are achieved by great resistance to moisture, heat and impact. Specify CMPC... custom plastic molders for over 40 years.

CMPC CHICAGO MOLDED PRODUCTS CORPORATION

1020-J N. KOLMAR AVE. CHICAGO 51, ILLINOIS

CHEMICAL RESISTANT **STANZOILS**® FOR EXCLUSIVE

Non-Slip Grip

Stanz oils are made for job conditions that include handling wet, slippery objects in oils, greases, acids, caustics, or solvents. Exclusive non-slip grip is actually safer, surer than bare hands. Milled neoprene has greater tensile strength, tear-resistance and withstands chemicals which ruin ordinary rubber. In black or white. Complete range of sizes, styles, weights and lengths shown in pocket catalog. Write today.

PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 211 on Information Card—Last Page

ABRASION-RESISTANT **STANFLEX**® GLOVES FOR

Flexible HAND FREEDOM

Here's the first liquid-proof, abrasion-resistant work glove tailored to provide dress glove hand freedom. Tough blue Pylox™ coating permanently bonded to soft 8-ounce jersey outwears both cloth and leather gloves; provides lowest cost-per-hour of use in many abrasive jobs. In knit wrist, 10" band top, 12" and 14" gauntlet; short styles available with ventilated back. Write for free Glove-Style Wall Chart.

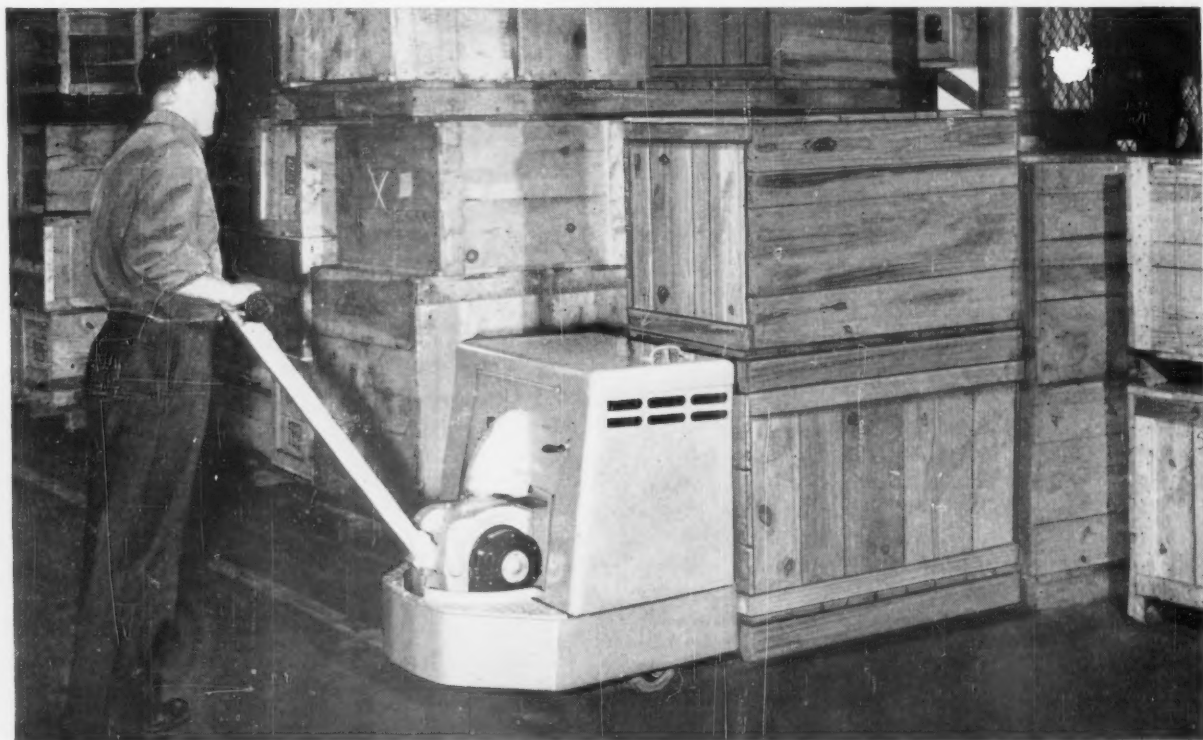
PIONEER

The PIONEER Rubber Company, 233 Tiffin Road, Willard, Ohio

For More Facts Write No. 212 on Information Card—Last Page

EXIDE POWER PACKAGE

Exide Industrial Marketing Division, The Electric Storage Battery Company, Philadelphia 20, Pa.

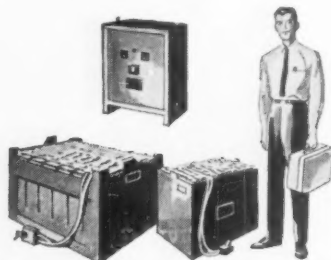


Extra economy assurance for your new walkie-type truck—the Exide guarantee of battery life equal to truck life.

BATTERY GUARANTEED FOR LIFE OF TRUCK

Let's say you're about to buy a new walkie-type electric industrial truck. You want long battery life for maximum economy, and you don't want the nuisance of ever replacing the battery, if you can avoid it. Well, this is the Exide offer:

For walkie-type low lift trucks and hand tractors, the recommended Exide nickel-iron-alkaline battery (the type invented by Thomas A. Edison) is guaranteed for the life of the truck—provided the truck remains in your possession and approved maintenance procedures are followed.



The Exide Power Package. Recommended battery and charger from the world's broadest lines—plus factory-quality service to cover both.

This is not a reckless offer. Exide knows from countless actual performance records that these batteries readily give this kind of life. Many Exide nickel-iron-alkaline batteries have been used in walkie-truck service for upwards of 20 years and are still going strong. So the plain fact is that we are simply giving you positive assurance of battery value that is already there anyway.

Long life is one of the characteristics of Exide nickel-iron-alkaline batteries. They have other unique advantages too. They are lighter in weight than other batteries. They give off no corrosive fumes during use or while charging. And they can be stored indefinitely without injury. This is of special value during seasonal shutdowns or other inactive periods. All you do is discharge the battery, short-circuit the terminals and store in a clean, dry place.

Of course, for any type electric industrial truck—walkie, rider, or narrow-aisle—the maximum power economy depends on three factors: the right battery for the job, a charger to match, and needed service. This combination is the Exide Power Package.

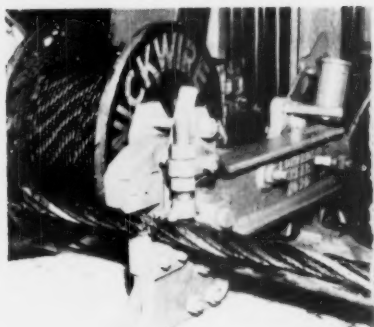
Your Exide representative studies your requirements, then recommends the battery best for your needs from the broad Exide line. He is completely objective in determining your needs because Exide offers all types: Exide-Ironclad with tubular positive plates, Exide-Powerclad premium flat-plate, and Exide nickel-iron-alkaline. Exide chargers are available in both motor-generator and silicon rectifier types and in sizes to cover all needs. Exide service men are coast to coast, all factory trained on batteries and chargers.

The Exide Power Package is your easiest way to get not only maximum battery life in your applications, but maximum battery economy year after year. Write for details. Exide Industrial Marketing Division, The Electric Storage Battery Company, Philadelphia 20, Pa.

Exide®

Products

One Metal Shears Does Many Jobs



A major product improvement enables one metal cutting shears to cut cable up to 1½ in. in diameter, as well as 1⅜ in round stock, 1¼ in. square reinforcing bars, 3 x 3 in. flat, and 2½ in. x 5/16 in. angle iron. Now building contractors, utilities, and manufacturers can perform all of these metal cutting operations with just one portable hand operated shear. The cable cutting knives are interchangeable with those for cutting bars and will fit this model shear now in use in the field. **Edwards Manufacturing Co., Albert Lea, Minn.**

Write No. 23 on Information Card—Last Page

Roller Chain Lubricates Itself

A self-lubricating roller chain is designed especially for drives and conveyors that cannot be lubricated regularly. It provides built-in protection against tough service conditions such as dust, dirt or moisture and is ideal for open and exposed drives. It can be used wherever the strength, wear life, and quiet precision operation of roller chain are needed. Self-lubricating feature is achieved by heavy, oil-impregnated, sintered steel bushings that replace conventional rollers and bushings. "Self-feed" lubrication between bushings, pin and sprocket teeth, assures constant protection against corrosion, abrasion and friction. **Chain Belt Company, Milwaukee 1, Wisconsin.**

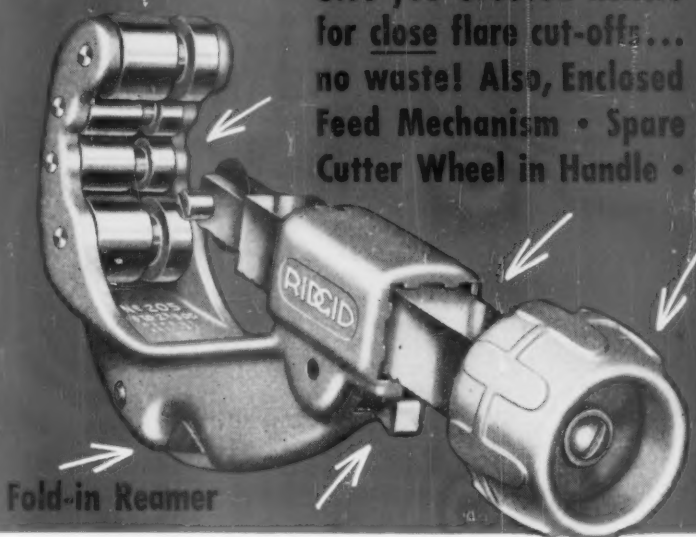
Write No. 24 on Information Card—Last Page

DECEMBER 18, 1961

2
New

RIGID Tubing Cutters

Give you Grooved Rollers for close flare cut-offs... no waste! Also, Enclosed Feed Mechanism • Spare Cutter Wheel in Handle •



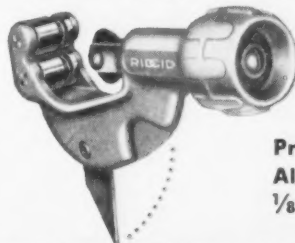
RIGID No. 205 Tubing Cutter

Time-Saving, Slide-to-Size ⅛" to 2⅜" O.D. Capacity

Made of lightweight, high-strength cast aluminum alloy, you'll find these new RIGID Tubing Cutters extra handy. Slight push on handle of large-size-range RIGID No. 205 snugs cutter wheel against tubing... locks it in position until released. Feed screw fully protected and enclosed... always feeds into tube with easy handle turn... can't jam with chips or dirt. Wheel gives

quick, clean cuts of copper, brass, aluminum tubing and thin-wall conduit... no burr. Grooved rollers give easy flare cut-offs without tubing waste. Tubing always turns freely on 2 of 4 Rollers. Rollers smooth tubing ready for soldering. Fold-in reamer always handy. Spare cutter wheel in handle. Wheel for plastic and aluminum pipe available for No. 205 only.

Conform to Fed. Spec. GGG-C-771b Type II—Class I—enclosed feed mechanism



RIGID No. 105 Tubing Cutter

Protected Feed Screw
Always Easy-Turning
⅛" to 1⅛" O.D. Capacity

To save time and tubing, order these new RIGID Tubing Cutters today!
Your Supply House has them!

RIGID

The Ridge Tool Company, Elyria, Ohio, U.S.A.

For More Facts Write No. 214 on Information Card—Last Page

Products

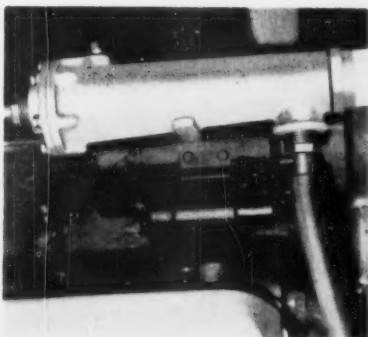
Teflon Gloves Resist Acid Attack

Teflon gloves provide reliable protection against acids, alkalis, fuels and other corrosive materials at temperatures from minus 100°F to plus 350°F. Manufactured of new FEP Teflon sheet welded by a Saunders engineering process, gloves come in either

mitten or finger glove types, custom made in sizes, designs, stock thicknesses and cuff lengths to meet specific requirements. Resistant to all materials to which Teflon is resistant, gloves are suited for use in chemical plants, laboratories, fuel plants and other operations where hands must be exposed to various types of corrosive materials. **R. S. Hughes Co., Inc., 4515 Alger St., Los Angeles 39, Calif.**

Write No. 25 on Information Card—Last Page

Electric Heater Pre-Warms All Engines



An electric engine heater which pre-warms truck, bus and automobile engines in freezing weather connects into cooling system of any gasoline or diesel engine, forcing warm water by convection through the engine. Warming allows quick starting, prolongs battery life, and avoids crank case dilutions and damaging acid accumulations. Unit consists of aluminum heating chamber, complete with 3 ft cord and plug. Check valve prevents interference with normal cooling circulation if engine is running. A variety of models are offered, for all-night warming or fast morning warm-up from 750 to 4000 watts, and 120 and 240 volts. **Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.**

Write No. 26 on Information Card—Last Page

Hard Coating Protects Metal and Masonry

"Defensite LG" (Liquid Glass) provides an extremely hard yet resilient water-white, corrosion-resistant clear metal and masonry coating. Ready-mixed for immediate use, LG dries almost instantaneously and adheres to aluminum, stainless steel, brass, copper, galvanizing and almost all commercially used metal surfaces. All-synthetic product is extremely resistant to acids, alkalis, solvents, fuels (including highly corrosive JP-4 jet fuel) as well as to sea water (immersion or spray), steam and sustained ultra-violet exposure. **Wilbur & Williams Co., Inc., 650 Pleasant St., Norwood, Mass.**

Write No. 27 on Information Card—Last Page

IT PAYS TO SEND YOUR FASTENER SPECIFICATIONS TO SPECIALISTS . . .



ERIE BOLTS • STUDS • CAP SCREWS • NUTS In Alloys • Stainless • Carbon • Bronze

All the economies inherent in specialized production backed by experienced craftsmanship are yours when you send your fastener specifications to Erie. For almost half a century, our sole business has been the production of fasteners to customer, government or national standards . . . fasteners to meet the rigors of extreme temperatures, corrosion, tensiles, fatigue, impact, sheer stresses . . . fasteners for railroads, refineries, diesels, farm and earth moving equipment and other heavy machinery. Send your specifications to us for prompt estimate.



ERIE BOLT & NUT CO.
Erie, Pennsylvania

Representatives in Principal Cities

For More Facts Write No. 215 on Information Card—Last Page



**NEW SAFETY
SOLVENT HAS
LOW TOXICITY**



CHLOROTHENE[®] NU cold-degreasing solvent has all the desirable characteristics of the nonflammable chlorinated solvents *plus* less toxicity. Maximum allowable vapor concentration is a high 500 ppm compared to carbon tetrachloride at 25 ppm. Chlorothene NU shows outstanding superiority in its resistance to fire—it has *no* fire or flash point measurable by standard methods!

This combination of low toxicity and no flash point has led to the wide use of Chlorothene NU in production and maintenance cold-degreasing operations. Chlorothene NU specially inhibited 1,1,1-trichloroethane has an excellent low-corrosion record. It can be used safely on most electric motors, instruments, all common metals—including aluminum, zinc, and corrosion-prone "white-metal" alloys, and many plastics. It is easily recovered by distillation.

Use Chlorothene NU in *your* cold degreasing. Contact your distributor of Dow solvents for complete information about its safety features, uses, recovery and cost. Ask him about Dow trichloroethylene, perchloroethylene and methylene chloride, too. Or get in touch with your nearest Dow sales office.

SEE YOUR DISTRIBUTOR OF DOW SOLVENTS FIRST!

THE DOW CHEMICAL COMPANY



Midland, Michigan

Office Equipment and Supplies



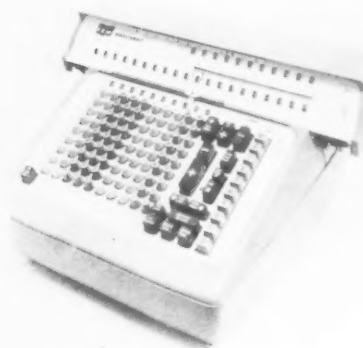
A plastic wastebasket developed by **Loma Industries, Fort Worth, Texas** represents a modern adaptation of the Japanese art of folding paper to form rigid surfaces. The new basket stands 11" high and is 8" in diameter.

Write No. 28 on Information Card—Last Page



Addition of two postage scales to its line of office and paper handling equipment has been announced by **Fairchild Camera and Instrument Corp., 20110 Detroit Road, Cleveland 16, Ohio**. The new models include a first class letter scale and a parcel post package scale.

Write No. 29 on Information Card—Last Page



A fully automatic rotary calculator with ten column figure capacity was introduced recently by **Smith-Corona Marchant Inc., 410 Park Ave., New York 22, N.Y.**

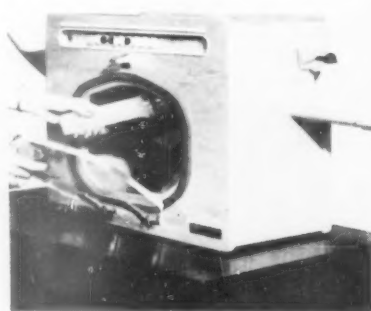
The new machine also has a special division feature for computing percentage of decrease and automatic decimals. It rounds off fractions to one cent if equal to $\frac{1}{2}$ or higher.

Write No. 30 on Information Card—Last Page



A new line of numeric accounting machines has been announced by **Burroughs Corp., Detroit, Mich.** The new series replaces 15 older models and is designed for applications such as inventory control, payroll, accounts payable, and billing. Existing stocks of the previous series will be sold at reduced prices.

Write No. 31 on Information Card—Last Page



Handling or sending papers and supplies between offices, departments, and buildings can be fully automated with the pneumatic tube system introduced by **Lamson Corporation, Syracuse, New York**. A basic system of two or three stations can be installed with additional stations added at any time afterwards.

Write No. 32 on Information Card—Last Page



Simple, low-cost tabs to alphabetize files, cards, and binders are offered by **Avery Label Company, 1616 S. California Ave., Monrovia, Calif.** The new tabs can be put on a wide variety of materials because they are self-adhesive. To use: peel off backing paper and press on the surface.

Write No. 33 on Information Card—Last Page

Announcement of new line of pressure-sensitive labels has been made by **A. Kimball Co., 8 Rewe St., Brooklyn 11, N. Y.** The line includes a range of plain or pre-printed labels for making machines, automatic labeling machine and non-machine applications.

Write No. 34 on Information Card—Last Page

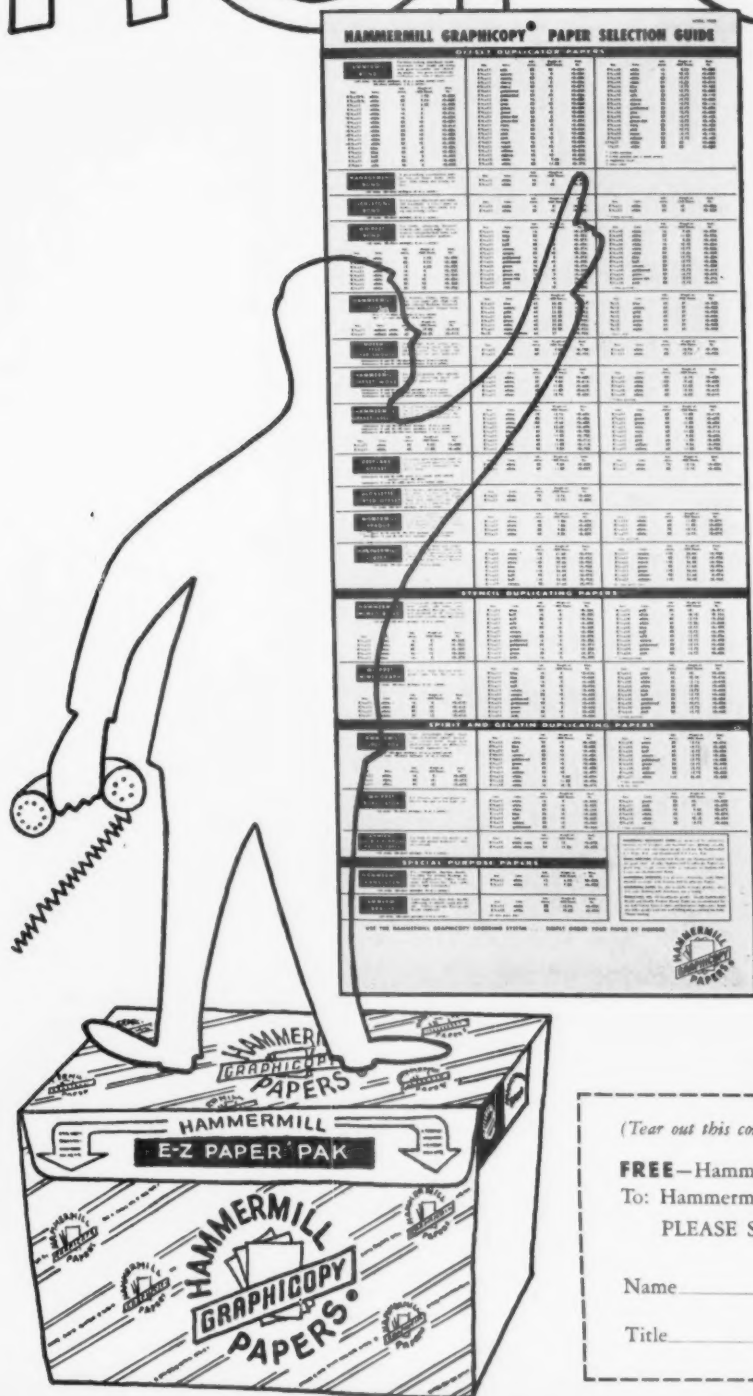


A counter-high bookcase which is designed for continuous line installation is now being marketed by **Lyon Metal Products, Inc., 10 Plant Ave., Aurora, Ill.** It has adjustable shelves and stands 42" high. The finish is a baked-on gray enamel.

Write No. 35 on Information Card—Last Page

What makes ordering Hammermill
Graphicopy Papers so easy?

HGPSG



Or the Hammermill Graphicopy Paper Selection Guide. With this handy chart you simply (1) find your item on the complete list of papers for office printing and duplicating, (2) phone your nearby Hammermill supplier, (3) give him the Graphicopy stock number and the quantity you want.

What number? 10-004, for example. That stands for Hammermill Bond, 8½ x 11, white, substance 20. No need to mention the grade, size, color or weight of the paper you want. Just the number.

The time-saving HGPSG can be used as a wall chart or file folder. Ask your Hammermill supplier for your free copy, or attach the coupon below to your business letterhead and mail to the Hammermill Paper Co., 1461 East Lake Rd., Erie 6, Pa.

(Tear out this coupon now and attach it to your business letterhead.)

FREE—Hammermill Graphicopy Paper Selection Guide
To: Hammermill Paper Co., 1461 E. Lake Rd., Erie 6, Pa.
PLEASE SEND MY FREE HGPSG.

Name _____

Title _____



If your business demands records that must last through the years, be sure to specify L. L. Brown's LINEN LEDGER (Extra #1 — 100% new white cotton cuttings) the world's most durable paper.

**There's an
L. L. BROWN
RECORD PAPER
for every use**



For everyday use there is no better choice than L. L. Brown's ESCORT LEDGER (50% new cotton cuttings). This excellent record paper withstands hard use and repeated erasures and is available in white and five popular colors . . . ideal for machine or manual posting.

*"The quality which
has earned its
reputation"*

**L. L. BROWN
PAPER COMPANY
ADAMS, MASSACHUSETTS**



Write No. 218 on Information Card—Last Page

Office Equipment

The quarterly issue of "Trends In The Office" is available from Wood Office Furniture Institute, 1414 Eye Street, N. W., Washington 5, D.C. It is illustrated with four-color pictures of executive offices and examines present-day decor. Copies are free.

Write No. 36 on Information Card—Last Page



Waste can which looks like a cabinet is being marketed by D. J. Alexander, 2944 E. Venango St., Philadelphia 34, Penna. It comes in two models: flat swing-door self-closing top and pedal-operated front door. Both models can be ordered in 16" square or 20" square sizes.

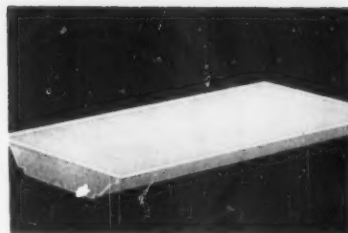
Write No. 37 on Information Card—Last Page

A memo and note organizer in the form of a 96-page spiral bound book has been introduced by Kano Laboratories, Inc., 1000 S. Thompson Lane, Nashville 11, Tenn. The right hand page of this 8½x11 book has numbered lines, one for each item. Provision is made for a reference, a due date, and date for completion. The organizer is particularly suitable for purchasing executives because it keeps before them an outline of many different tasks ahead.

Write No. 38 on Information Card—Last Page

Information on new steel shelving is contained in a brochure published by Aurora Steel Products Co., 153 Third St., Aurora, Ill. The unique feature of the new shelving is that it has only three basic parts: upright, shelf support and shelf.

Write No. 39 on Information Card—Last Page



New enclosing element for fluorescent lighting fixtures has been announced by Day-Brite Lighting Inc., 6260 N. Broadway, St. Louis 15, Mo. It combines esthetic appeal of egg-crate louver with greater light control and a closed-type shielding element to lower maintenance costs.

Write No. 40 on Information Card—Last Page

Pocketbook-sized handbook which explains employee benefits under the Social Security Act has been announced by Commodity Research Publications Corp., 82 Beaver St., New York, N. Y. The handbook is designed for mass employee distribution.

Write No. 41 on Information Card—Last Page



Intercom telephone has been developed for use where heavy internal telephone traffic is concentrated. It is compatible with all other instruments on a private exchange and allows the use of three extensions from the same station. The instrument has seven buttons above the dial, four of which are "line," the other three being "hold" buttons. When a line button is depressed, the corresponding hold button automatically goes down. The user can then switch immediately to other lines without losing the connection. The new unit is a product of Tele-Norm Corp., New York City.

Write No. 42 on Information Card—Last Page

NEW BELL SYSTEM DIAL-PBX
ELIMINATES
MANUAL SWITCHBOARD,
SPEEDS COMMUNICATIONS
INSIDE AND OUT



With new Bell System dial-PBX service, you and your employees can *dial* interoffice and outgoing calls directly from your desks.

Using this compact desk-top unit, your switchboard attendant can get priority incoming calls through to you *faster*—and have time to perform other useful duties, too.

Whatever your communication needs may be, the Bell System is uniquely qualified to meet them. One of our Communications Consultants is ready to show you how new and improved Bell services can help you operate more efficiently, more profitably. Just call your Bell Telephone Business Office and ask for him. No obligation, of course.



F. J. Lenfesty, president of F. Hurlbut Company, Green Bay, Wisconsin, tells how his company profited from dial-PBX:

"Calls from some of our cement products customers were being delayed at our main switchboard, especially during busy hours. On the recommendation of one of your Communications Consultants, we installed a dial-PBX, and now

customer calls are handled quickly and efficiently. We've saved one-third of our operators' switchboard time, and we're making sales that might otherwise have been lost. Our changeover to dial-PBX was well worth the money."



BELL TELEPHONE SYSTEM

Circa 1962



The priceless spinning wheel and woven cloth were photographed by courtesy of a famous museum in the Philadelphia area.

The spinning wheel is a genuine antique, Circa 1782. The Peerless filing cabinet is Circa 1962.

1962 in every detail of fine craftsmanship, designability and creative color development—and it is but one style number from the complete Peerless collection of filing cabinets, desks and accessory office furniture.

Your nearby, authorized Peerless Dealer is a good man to know when next you consider office layout and stylized office furniture.

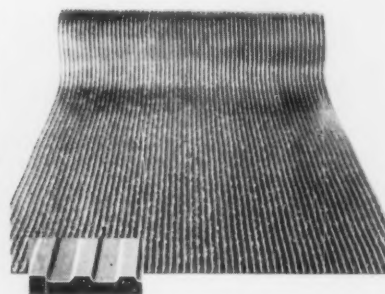


Peerless Steel Equipment Co.

Unruh & Hasbrook Avenues, Philadelphia 11, Pa.

For More Facts Write No. 219 on Information Card—Last Page

Office Equipment



New all-purpose **runner matting** made of rubber compound reinforced with rayon and nylon fibers, is being marketed by **American Mat Corp., 2188 Adams St., Toledo, Ohio.** The matting has a narrow rib running lengthwise, is $\frac{1}{4}$ " thick, and comes in rolls 24" or 36" wide.

Write No. 43 on Information Card—Last Page

A booklet entitled "**Photo Recording Materials**" has been published by **Ansc division of General Aniline & Film Corp., 237 Clinton St., Binghamton, New York.** It includes technical data on exposure, lamp voltage, handling, processing, and drying oscillograph recording papers.

Write No. 44 on Information Card—Last Page



Fluorescent scissors type **lamp** with adjustable shade has been announced by **Acme Lite Products Co., Inc., Route 9-W, Congers, New York.** It can be mounted on the wall and the bracket swivels 180° horizontally. The lamp extends 15" closed to 24" in the full open position. It uses a 22 watt tube.

Write No. 45 on Information Card—Last Page



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INVOICE

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"Our experience with NCR

Paper has proved it is more flexible, more convenient to use and more economical than the forms we used previously.

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Midwest Steel Corporation

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For More Facts Write No. 220 on Information Card—Last Page

2 ASSOCIATIONS HOLD EDUCATIONAL SEMINAR

A ONE-DAY conference was recently held at Kutztown State College, Kutztown, Pa. jointly sponsored by Pennsylvania State University, the Purchasing Agents Association of Lehigh Valley, and the Reading Purchasing Agents Association.

Dean Cyrus Ezra Beekey, Kutztown State College, welcomed the 52 participants and defined the purpose of the meeting: "... provide all levels of purchasing with an opportunity to gain a better understanding of current problems and trends in purchasing."

"Materials Management—Will It Work?" was the subject of the talk given by William B. Consley, recently retired director of purchases of York Corporation. In his talk, Consley said that materials management is so important that "it must work because, generally, the cost of purchased materials represents more than half the cost of the product."

Consley confirmed his theory that one of the most important areas covered by materials management is inventory control. He visited the purchasing departments of 30 large companies from New York to Chicago and found

their biggest problem to be inventory control.

He stated that too high an inventory is bad, but in his opinion, too low an inventory is worse. "We can figure the cost when inventory is too high, but when inventory is too low can we figure the cost in lost business, shut down production lines, and irate customers?"

Make a Time Check

If purchasing agents checked on how they spend their time, the former P.A. said, they would probably find that 80% of their time is spent on purchasing items that represent 20% of the total value of all items purchased. He suggested placing orders for a full year's supply on all items where the usage is less than \$100 annually. In this way, he declared, more time can be spent doing a better job on purchasing the 20% of items that are 80% of the total value of purchases.

The next speaker was David H. McKinley, associate dean of the College of Business Administration, Pennsylvania State University. He talked on "The Nation's Economy."

Dean McKinley listed the sources of various statistical data that are available to alert P.A.'s interested in business trends. Included in the list were: Economic Report of the President; Federal Reserve Bulletin; Federal Reserve Chart Book; Statistical Indicator Reports; and Economic Indicators.

He predicted the trend for the 4th quarter of 1961 would remain steady, with better business due in 1962. He also predicted a continuation of good business in 1963.

Sigmund Holverstott, manager of trade relations of Bethlehem Steel Co., was third and final speaker of the day. His topic was "Trade Relations—Is This Good Business?"

Robert E. Jones, Lehigh Portland Cement Co., president of the Lehigh Valley Association, was program coordinator and introduced each speaker.

Other members of the planning committee were George Nahm, Carpenter Steel Co.; Edward J. Connolly, Pennsylvania State University; and Berry B. Lethbridge, assistant dean of the College of Business Administration, Pennsylvania State.



Dean McKinley discusses "The Nation's Economy" with members of the Reading and Lehigh Valley Associations.



Robert Jones (r.), Lehigh Portland Cement Co., looks over the conference program with the speakers and his co-chairman. They are (l. to r.): Dean David H. McKinley, Pennsylvania State University; Sigmund Holverstott, Bethlehem Steel Co.; William B. Consley, York Corporation; and George Nahm, Carpenter Steel Co.



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Association News

Philadelphia Assn. Holds VA 'Gold Rush'



With the assayer's office in the background, bingo players intently listen for that magic number which will mean a bag of gold for the winner.

DESCRIBING value analysis as a management technique which has saved his company nearly six million dollars so far this year, W. Walter Watts—executive vice president of Radio Corporation of

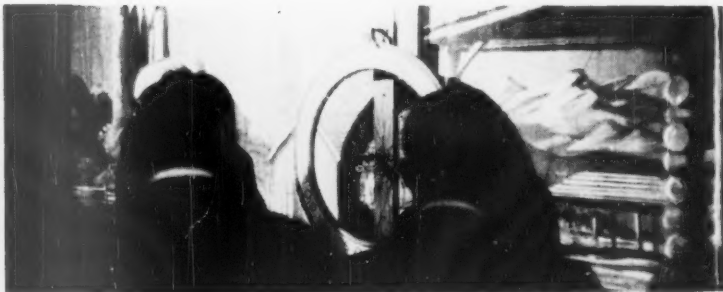
America—climaxed a VASCO 'Gold Rush' program, sponsored by the Philadelphia Association.

In his talk on "How Management Looks at Value Analysis,"

(Please turn to page 117)



Gamblers and croupiers both joined in the fun at the Philadelphia Vasco "Gold Rush" meeting.



The whirl of gambling wheels drew the rapt attention of many P.A.'s at the session held in the Bellevue Stratford Hotel.

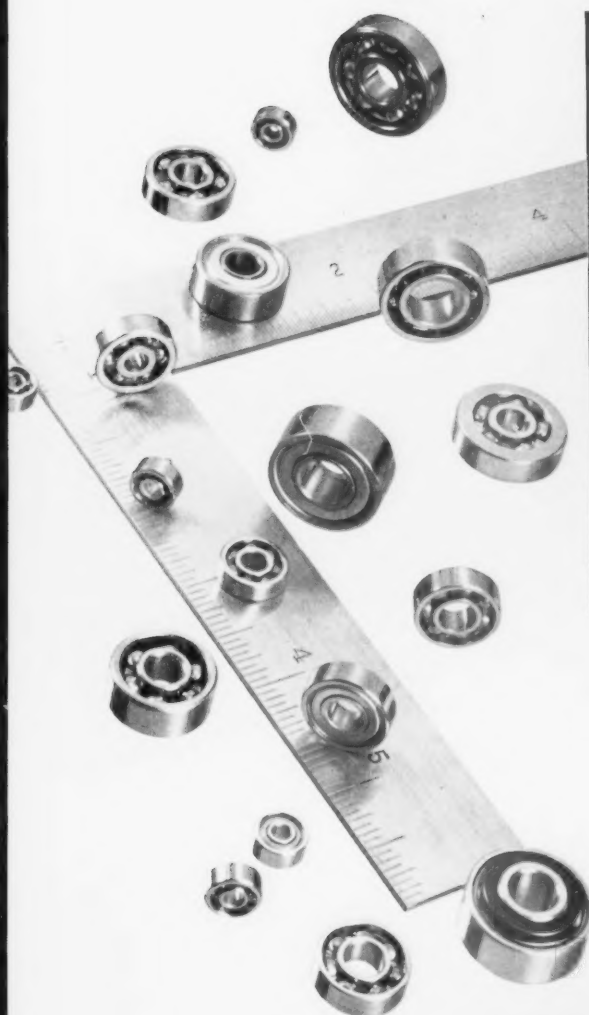


Lucky gamblers brought the gold they had won to the assayer's office, where they cashed it in for Purchasing's 1961 Value Analysis issue. Ken Geller, from R.C.A.'s Van Nuys plant receives his copy from Nancy Frankhouser, New Holland Machine Company.

Look to

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for leadership in ball bearings



...Space-saving ball bearings
for compact power tools

Power tool makers pack king-size muscle into hand-size heavy-duty drills! Fafnir Extra-Small Ball Bearings help turn the trick. Developed by Fafnir, these bearings are engineered with deeper, smoother honed races and larger balls — to package more brawn in smaller space. Look to *Fafnir* for leadership in ball bearings. The Fafnir Bearing Company, New Britain, Connecticut.

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dirt-proof ball bearings that
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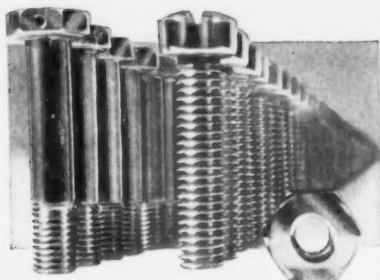
This giant combine takes a big cut! It's built to cut maintenance, too. Fafnir R-Seal Ball Bearings keep dirt out, grease in, and servicing at a minimum. Developed by Fafnir, the R-Seal is the most effective seal of its kind. Look to *Fafnir* for leadership in ball bearings. The Fafnir Bearing Company, New Britain, Connecticut.

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Write No. 223 on Information Card—Last Page

DECEMBER 18, 1961

Association News

(Continued from page 114)



W. Walter Watts, Radio Corporation of America executive vice president, emphasizes a point in his talk on "How Management Looks at Value Analysis".

Watts traced the development of the value analysis program at R.C.A. He pointed out that although purchasing still directs and guides the use of the concept, value analysis now operates in all functional areas. All personnel contributing to product cost, said Watts, should understand and make full use of value analysis.

"Value analysis," he said, "is a package of management and technical skills applied to all phases of production from raw materials to the end product so as to produce finished goods of optimum quality and reliability at minimum cost."

A Degree in V.A.?

Watts said he looks forward to the day when you can get a degree in value analysis and have a VA after your name. He declared that the results of a value analysis program should have a measurable effect on a company's profit and loss statement. For maximum savings, he said, value analysis should begin on the drawing board and be built into the design of the product.

In closing, Watts quoted from "Standards Outlook" by Leo B. Moore: "No poor idea can ever be so threatening to our future as no idea at all. No radical idea can ever be so upsetting to our self-sufficiency as no idea at all. The danger we face lies not in having ideas but in not having ideas."



GC Recording Charts are accurate

New booklet helps solve SPECIAL CHART problems



If you have a unique recording or control problem which a stock chart won't fit, GC's experience will work for you.

This free booklet, "Points to Specify in Special Chart Design," offers many useful tips to consider before specifying or designing a special chart. It suggests possible types of paper, sizing of punched holes, ink colors, overprinting, grid line widths, etc.

GC service—and this booklet—can eliminate false starts and wasted time. Let us serve you. Just send this coupon.



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Please send me your new folder "Points to Specify in Special Chart Design." No charge or obligation, of course.

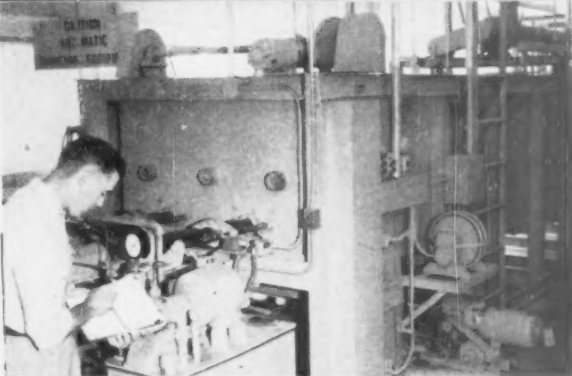
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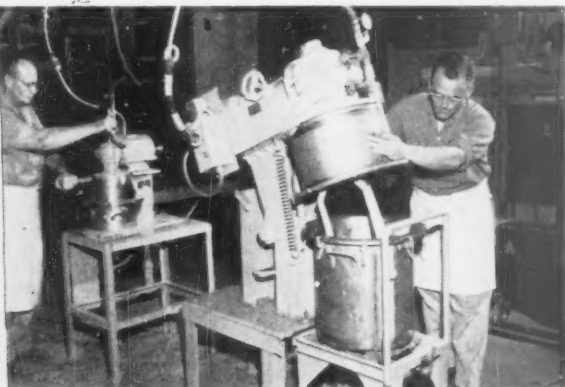
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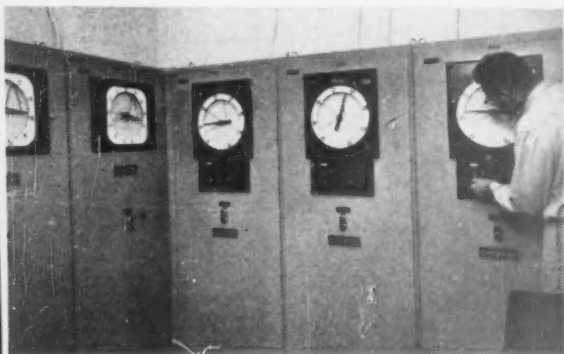
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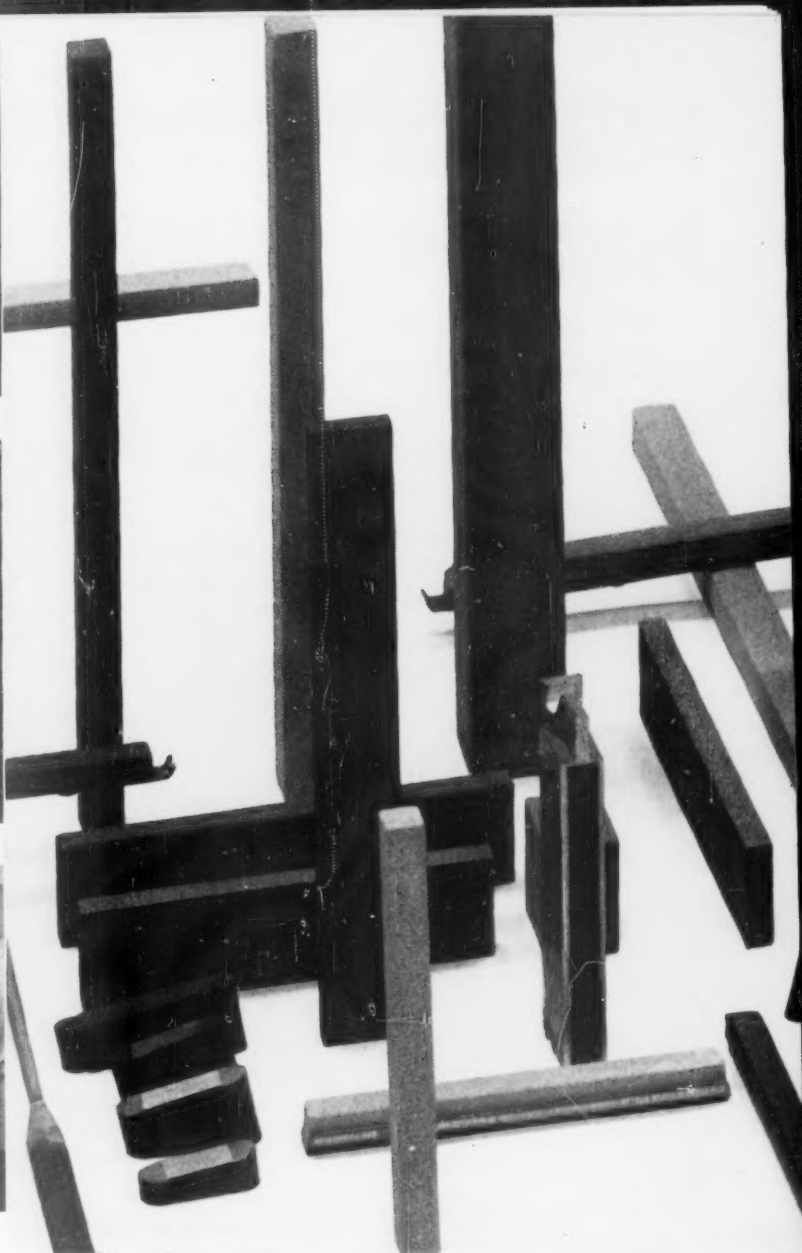
New automatic kiln—one of the industry's most advanced designs.



Precision vacuum-mixing to guarantee uniformity of the mix.



Electronic kiln controls, housed in special, air-conditioned room.



NEW TECHNIQUES unfailingly

Bay State has perfected a completely new process for the manufacture of honing stones which *improves performance . . . and ensures more perfect duplication* than has ever been possible before. Result: Honing stones that set entirely new standards for uniformity of texture, hardness and even color . . . stone after stone after stone.

The process starts with the formulation of new bond-abrasive mixtures that ensure uniform dispersion of all

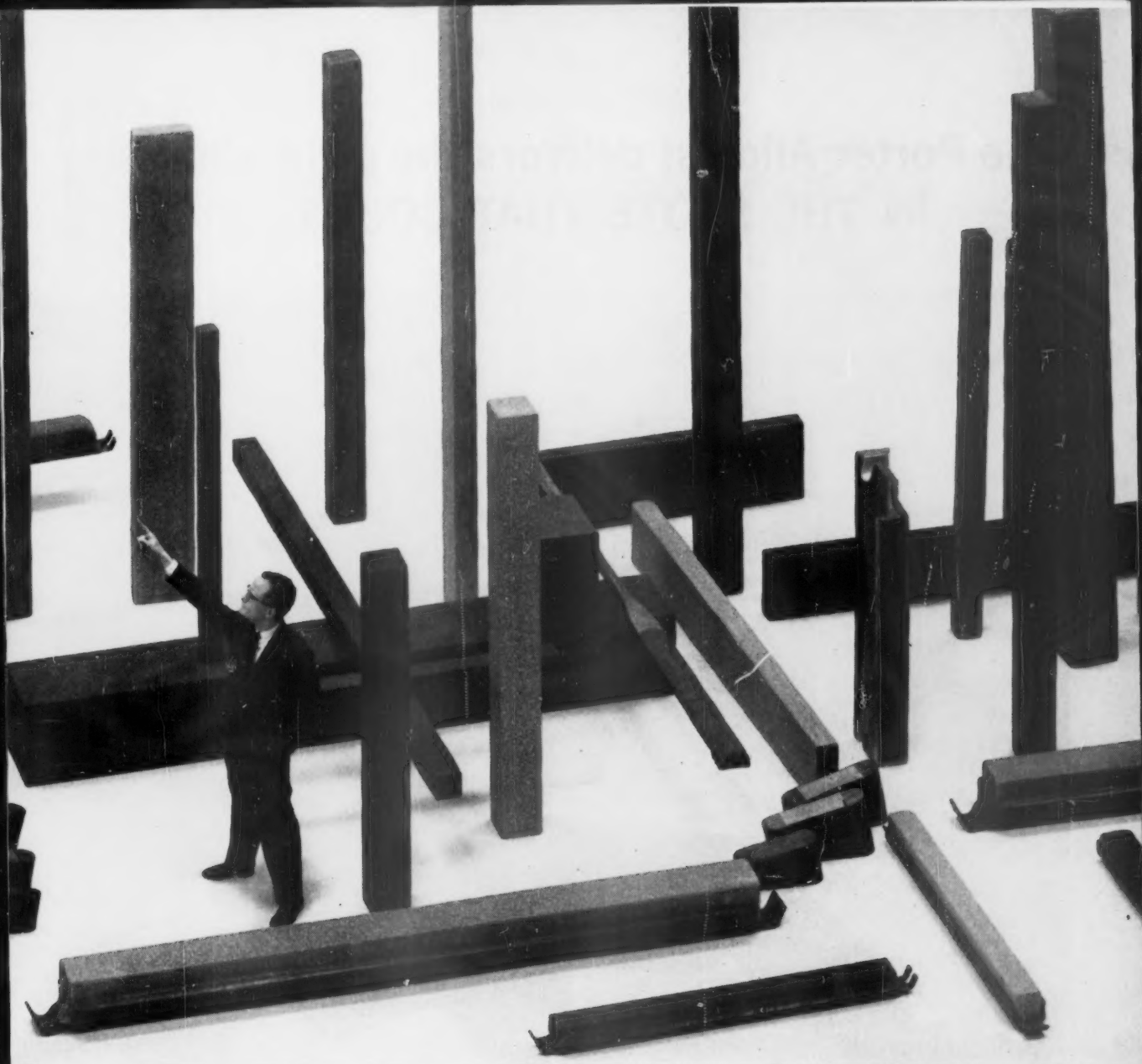
elements throughout the entire mix. Next comes vacuum mixing: high vacuum in the mixing chamber forces even microscopic bubbles out of the mix and rigid temperature control further guarantees uniformity of the mix.

Final step is firing in the most efficient, automatic kiln yet developed. Even the chemical composition of the atmosphere inside the kiln is controlled by an exothermic gas generator which maintains exactly the combination of gases that best suits the stones being fired.

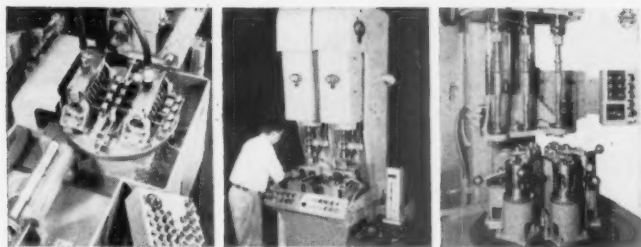


BAY STATE

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duplicate the finest honing stones ever



Production runs of Bay State's new-process honing stones have been exhaustively tested on Bay State's own, in-plant honing equipment ... and on every leading type of machine, such as the MICROMATIC, JES-CAL and BARNESDRIL machines illustrated above. Ask your honing stone supplier for Bay State's new-process stones.

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Bay State Abrasive Products Co., Westboro, Massachusetts.

In Canada: Bay State Abrasive Products Co., (Canada) Ltd., Brantford, Ontario.

Branch Offices: Chicago, Cleveland, Detroit, Los Angeles, Pittsburgh. Distributors: All principal cities.



BAY STATE ABRASIVE PRODUCTS CO.
Westboro, Mass.

Please send me your new 28-page Honing Stone catalog, that specifies which stones work best on what metals and alloys ... explains how to speed stock removal, improve finish, lengthen tool life, reduce reject rate.

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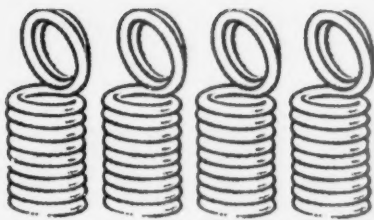
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IN THE SPOTS THAT COUNT





In a split second, the parachute will leap from the pack, released by five special stainless steel springs. Can you think of a tougher spot for reliable performance? Now—and every other time—the springs must work *perfectly*, must keep their shape, unfailing strength and resistance to low temperatures. It's a job for exactly the *right alloy*—recommended and supplied by the Porter Alloyist.

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Porter's Riverside-Alloy Metal Division is your single reliable source for specialty alloys in 8 basic groups of wire, rod and strip . . . phosphor bronze, nickel silver, cupro nickel, brass, stainless steel, nickel, Monel and Inconel.

Ask for a free copy of "Alloys for Industry" describing our wide range of specialty alloys. Write H. K. Porter Company, Inc., Riverside-Alloy Metal Division, Riverside, N. J. Or contact our sales offices in Hartford, Chicago, East Orange, Atlanta, Cleveland, Detroit, Cincinnati, Los Angeles and Rochester.



PORTER cupro nickel wire carries the workload in telephone switchboards.



PORTER supplies bronze and brass strip for wiring harnesses in automotive and marine electrical systems.



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Write No. 226 on Information Card—Last Page

DECEMBER 18, 1961

Association News

Utility Buyers Plan Conference



Officers and executive committee met in Chicago recently to plan the program and details of the annual conference scheduled for February 4-6, 1962 in San Francisco. Frank E. Baxter (seated right), Pacific Gas & Electric Co., is chairman of the group.

Price Is Defined For St. Louis P.A.'s

One of the nation's top salesmen recently told the Purchasing Agents Association of St. Louis that "any company whose selling prices cannot cover its costs will very soon find itself out of business. And by far the biggest cost throughout our economy is employment cost."

Howard J. Mullin, vice president-sales of United States Steel Corp., defined for the St. Louis P.A.'s what he called "The Seven Pillars Of Price." They include, he said, cost, quality, performance, availability, service, competition and freedom ("Those who lose their freedom of price eventually lose their freedom of person.").

There is, declared Mr. Mullin, lively economic competition everywhere in the market, even though market prices have reached a similarity by virtue of that very competition.

A similarity of prices for a given product in a given market does not mean that there is a conspiracy between producers to control prices and defraud customers, he said. "Actually," he stated, "the tendency toward a uniformity in prices is only evidence that competition is keenest—a situation in which no one can

get more for his product than the other fellow does, but must try to get as much in order to finance equivalent competitive efficiency."

Mr. Mullins concluded his remarks with the statement, "I do not believe that government price fixing is bad because government servants are bad. I believe that price fixing, even by angels, is impossible."

New Bill of Lading Explained at Rochester

"Cost Reduction in Transportation" was the subject of a two-man panel discussion at a recent meeting of the Purchasing Agents Association of Rochester. Lewis A. Schur, traffic manager of General Dynamics, and John W. Schindler, terminal manager of Van Curler Trucking Corp., were the experts on hand for the meeting.

The discussion centered around a new type bill of lading and freight bill system. The new document—which is being promoted throughout the country by the transportation industry—assures the shipper, all carriers, and the receiver of an exact facsimile of the original document. Office copying machines provide the fast reproduction necessary, and the

(Please turn to page 124)

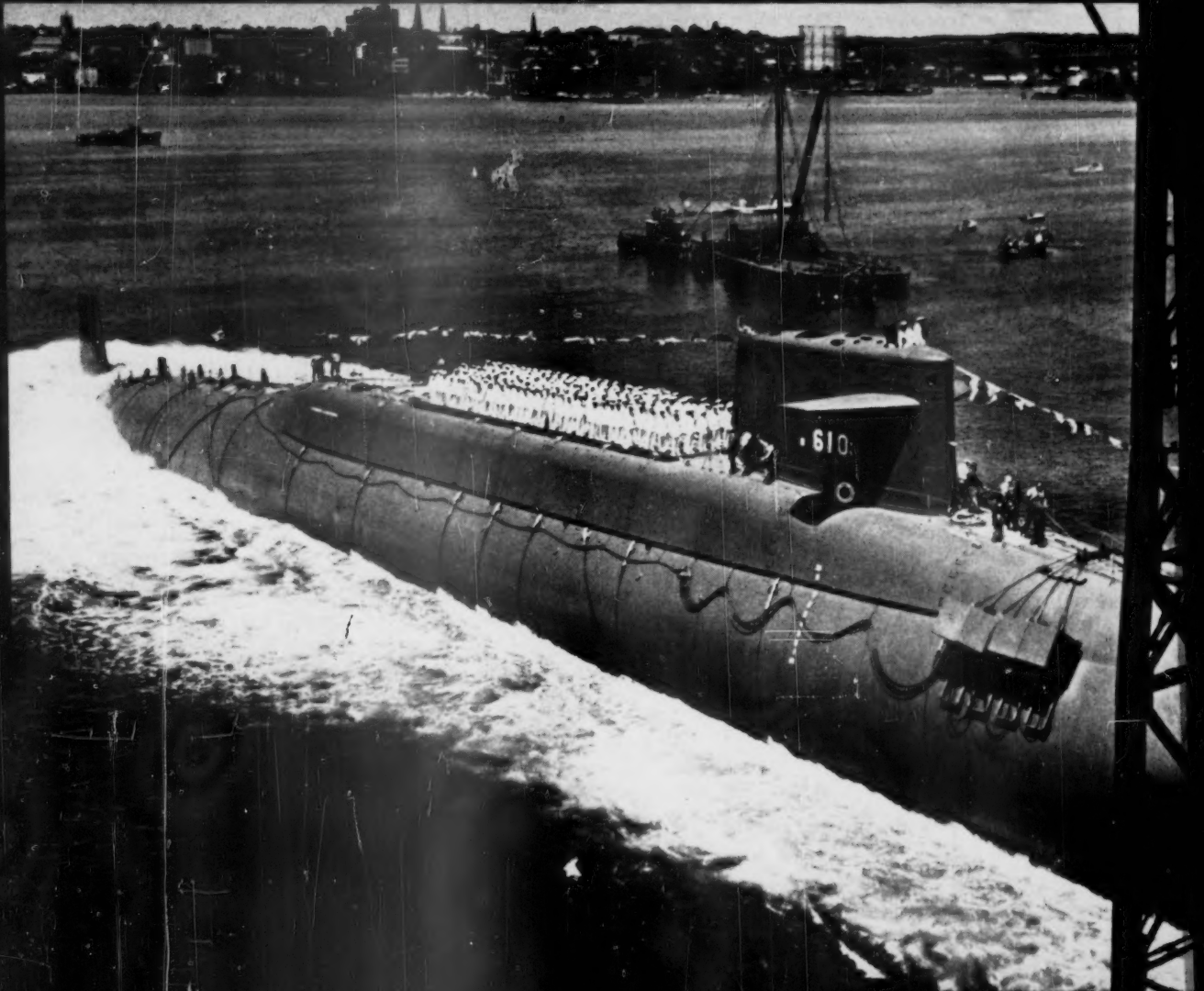
Thomas A. Edison would have been proud of his nuclear namesake

While Thomas Alva Edison is best known for his invention of the electric light, he must also be counted as one of the fathers of modern naval research. In 1915 he became head of the Naval Consulting Board, now known as the Office of Naval Research. He rendered invaluable service to the nation during World War I.



This mark tells you a product is made of tough, dependable Steel.

USS HY-80 armor plate was used for critical hull components in many of these nuclear-powered





The USS Thomas A. Edison is the eleventh nuclear submarine to be launched by General Dynamics Corporation's Electric Boat Division. It is a sister ship of the Ethan Allen launched last year and the fourth submarine designed to fire Polaris missiles that "EB" has built.

In requesting more funds for Polaris submarines, President John F. Kennedy said, "The sooner they are on station, the safer we will be." The chairman of the Joint Congressional Committee on Atomic Energy, Senator Clinton Anderson, has said that the nuclear-powered ballistic-missile submarine marks the closest approach now foreseeable to an ultimate deterrent.

As part of the Navy-Industry team that is producing nuclear submarines, United States Steel has already supplied thousands of tons of HY-80 armor plate (MIL-S-16216). This steel is a U. S. Navy/U. S. Steel development that helped make today's modern submarine design possible. Imagine the properties needed to withstand a *depth charge attack* while under deep-submergence pressure. HY-80 armor plate has the high yield strength and exceptional shock resistance required; yet it can be cold formed

and welded readily. This same armor plate assures maximum protection for many areas in our new aircraft carriers and other modern warships.

For landing craft, personnel carriers and tanks, other special grades of armor plate are available to fit specific applications.

If you are designing or building such equipment, United States Steel can supply a special steel to fit your needs. In fact, certain HY-80 rolled structural steel shapes are now available in a fairly large range of sizes and weights per foot.

For more information, or for a properties card on HY-80 plates and shapes, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

United States Steel Corporation • Columbia-Geneva Steel Division • Tennessee Coal and Iron Division • United States Steel Export Company



United States Steel

TRADEMARK

submarines built by Electric Boat Division, General Dynamics Corporation, Groton, Connecticut.



ETHAN ALLEN Nuclear-powered fleet ballistic-missile submarine. First of the "second generation" Polaris submarines.



GEORGE WASHINGTON Nuclear-powered fleet ballistic-missile submarine. First Polaris submarine.



PATRICK HENRY Nuclear-powered fleet ballistic-missile submarine. "George Washington" class.



TULLIBEE First nuclear-powered hunter-killer submarine.



SKIPJACK Nuclear-powered attack submarine. Prototype of its class.



SCORPION Nuclear-powered attack submarine. "Skipjack" class.



TRITON Nuclear-powered radar picket submarine. Two reactors.



SKATE Nuclear-powered attack submarine. Prototype of its class.



SEAWOLF World's second nuclear-powered submarine.



NAUTILUS World's first nuclear-powered submarine.

ElastaCAST[®]

SOLVES CRITICAL MATERIAL SELECTION PROBLEMS



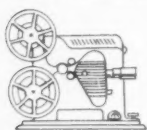
Automotive Ball Joint Seal. "30,000 miles without ball joint lubrication" resulted from Ford Motor Company's use of oil-resistant ElastaCAST for ball joint seals in its 1961 Fords, Mercurys and Lincoln-Continentials. This application takes advantage of ElastaCAST's abrasion resistance, tear strength, excellent weathering properties and low permanent set.

If you are planning a product that requires a material with unusual properties, take a look at ElastaCAST. Let us work closely with you, particularly in your early design work; experience has shown us that definite savings in design, production and the finished part generally result.

ElastaCAST is a new liquid polyurethane elastomer possessing an unusual range of mechanical and physical properties — such as outstanding abrasion, tear and ozone resistance, oil and gas resistance and high load-bearing. Here's a whole new sales advantage made possible through our rubber and plastics technology. Call us about your tough or unusual applications.

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760 Belleville Avenue, New Bedford, Mass.



Light Drive Rolls of ElastaCAST assure longer life...higher drive friction.



Shoe Toplifts of ElastaCAST outwear nylon, rubber or leather . . . take impact bearing loads up to 7,000 psi.



Textile equipment bearings of ElastaCAST outlast metal as well as conventional rubbers and plastics.



Please send my copy of your new 16-page ElastaCAST Design Manual.

Name

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Company

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For More Facts Write No. 228 on Information Card—Last Page

Association News

(Continued from page 121)

standardized form provides many advantages to the shipper and carrier.

Members of the Rochester Association were urged to get behind the plan and promote general acceptance of the system which, according to Mr. Schur and Mr. Schindler, can play a big part in reducing shipping costs.

Erlicher Award Goes To James A. Cooney

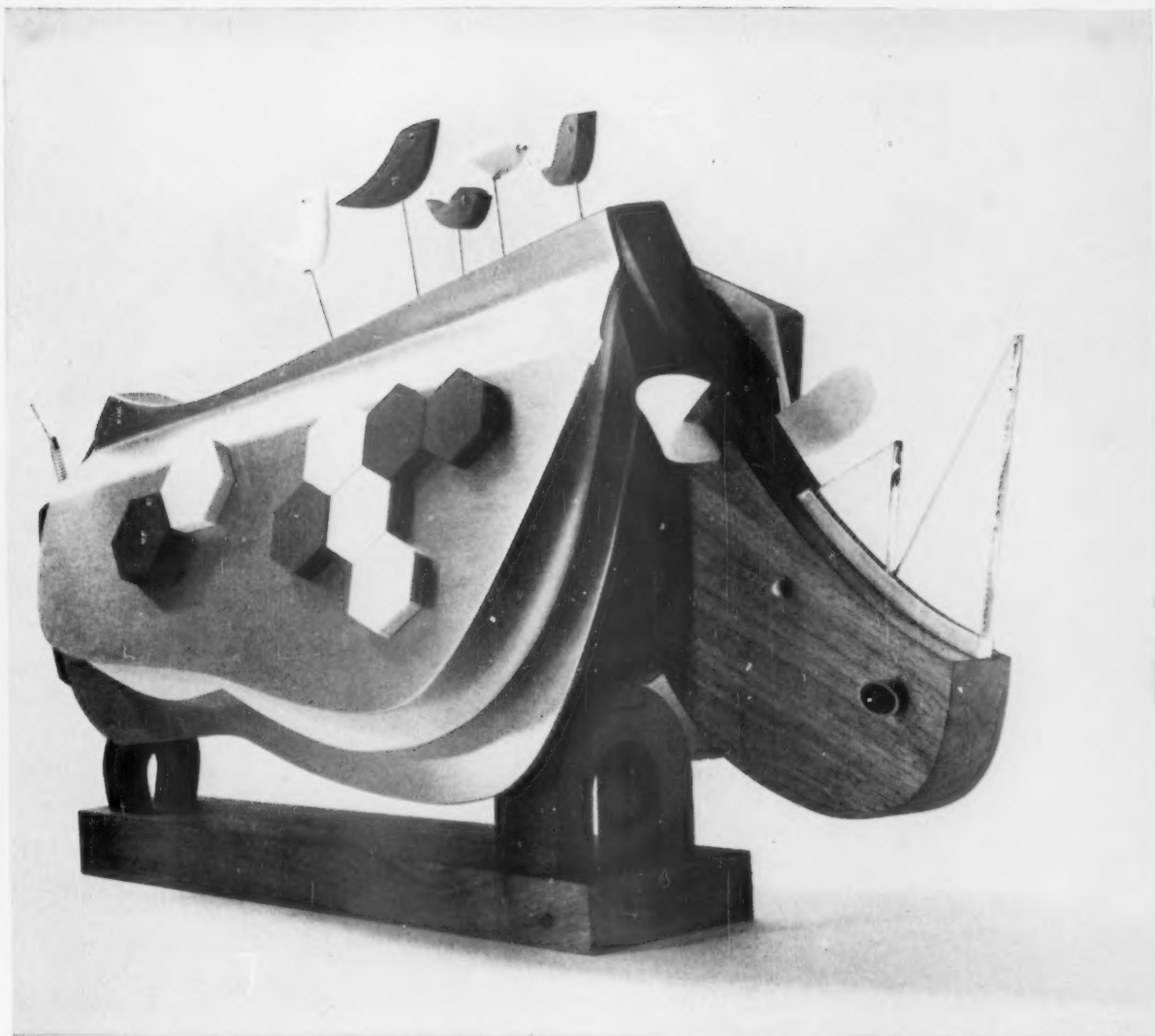


James A. Cooney received the Harry L. Erlicher award at the 8th District Conference recently held at Newark, N. J. Cooney is a member of the Purchasing Agents Association of Rochester and was purchasing agent for the International Salt Co. until his retirement last January. Active for more than 20 years in N.A.P.A., Cooney was 8th District vice president in 1946-47 and served as national director from then until 1953. He was general chairman of the 1947 N.A.P.A. national convention.

Swartzwalder Talks To Syracuse P.A.'s

Syracuse and Central New York Association P.A.'s heard Syracuse football coach Ben Swartzwalder discuss big time football at their November meeting at the East Room of the Hotel Syracuse.

The talk was a follow up of last year's talk to the group by Syracuse line coach "Rocky" Pirro. During the business portion of the meeting, members voted on proposed revisions to the constitution.



Sculpture created especially for 3M Company by Guy Palazzola

STRENGTH

... Bonds "strong as a bull rhinoceros" made with SCOTCH-WELD®
Brand Structural Adhesives

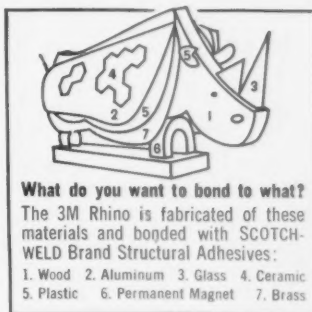
Whatever materials you're bonding (to the same or to another material), a SCOTCH-WELD Brand Structural Adhesive bond will give you a bonus of structural strength at the joint, with the flexibility to resist vibrational fatigue. SCOTCH-WELD adhesive bonds distribute stress loads uniformly, and protect the strength and integrity of the materials by eliminating fastening holes, maintaining the finish, and sealing joints against corrosion.

Fatigue tests show that metal-to-metal joints in Convair's 880 jet transports and Air Force F-102A jet interceptors, bonded with SCOTCH-WELD adhesives, will outlast the metal structure they bond together! In industry, too, SCOTCH-WELD adhesives are finding use in joining hermetically sealed metal shipping containers, multiple piece castings and thinner gauge metals,

where tear strength would limit the effectiveness of other joining methods.

Look first to 3M! A pioneer in adhesive research, 3M has developed the widest line of adhesives in the industry. These Technical Service facilities are at your disposal. For an accurate appraisal of how an adhesive can add strength, light weight, production economy, and greater design freedom to your process or product, call your nearest 3M Field Engineer or write to: AC&S Division, 3M Company, Department SBCC-121, St. Paul 6, Minnesota.

"SCOTCH-WELD" is a Reg. T.M. of 3M Co. © 3M Co., 1961.



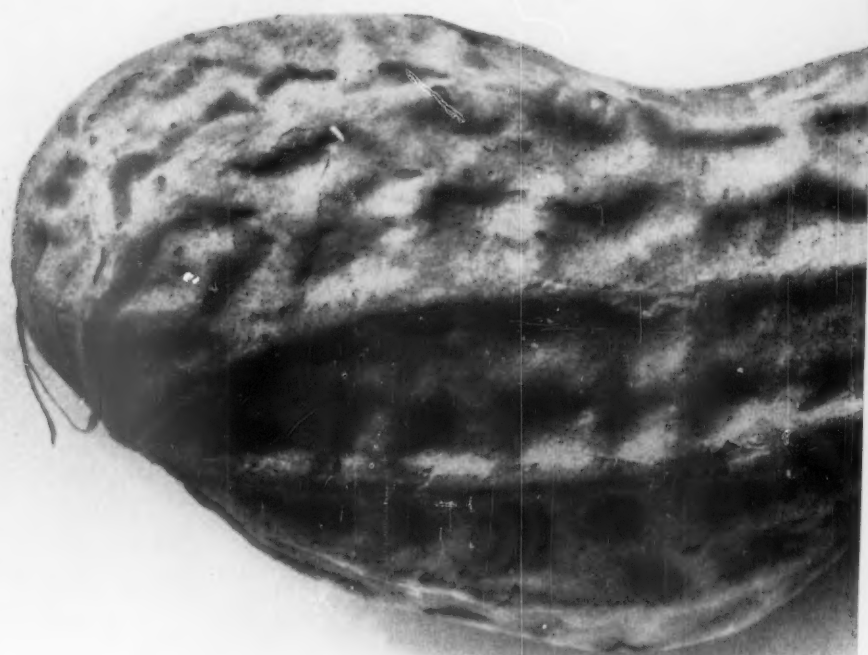
ADHESIVES, COATINGS AND SEALERS DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

... WHERE RESEARCH IS THE KEY TO TOMORROW



For More Facts Write No. 229 on Information Card—Last Page





containers for multi-part products

...ours are almost as good (and we make them in volume). Good as a peanut shell is, we're one up on nature. We offer design service. Art and printing. Technical packaging advice. Merciless testing. Creative ap-

proach to package engineering. What's more, we're a reliable source of supply (some years are very bad for peanuts). Our productive capacity: over 800 million corrugated boxes per year. And that ain't peanuts.



**West Virginia
Pulp and Paper**

Hinde & Dauch Division

HINDE & DAUCH DIVISION, WEST VIRGINIA PULP AND PAPER COMPANY, SANDUSKY, OHIO - 16 PLANTS - 42 SALES OFFICES

*Are you buying LAMINATED PLASTICS or VULCANIZED FIBRE...
as raw materials or fabricated parts?*

TAYLOR FIBRE CO. HAS 2 MODERN PLANTS TO SERVE YOU

**NORRISTOWN, PA.
LA VERNE, CALIF.**

and belongs to an approved supplier

Taylor has the products... offers more than 50 grades of standard laminates—a group of Taylaron® materials, pre-impregnated materials, molding compounds, and vulcanized fibre. Also filament winding and a number of composite materials, including sophisticated combinations of laminates, metals and rubbers.

Taylor has the facilities. Its Norristown, Pa., plant, comprising some 300,000 sq. ft., produces both vulcanized fibre and laminated plastics... is one of the most completely integrated in the industry... even makes its own paper and a large percentage of its own resins. The La Verne, Calif., plant, with over 45,000 sq. ft. of floor space, specializes in the manufacture of laminated plastics for the convenience of West Coast customers. Both plants can supply basic materials or parts fabricated from them.

Taylor has the service organization... maintains 13 strategically located offices staffed with men qualified to help in the selection and utilization of Taylor materials.

Write for a copy of our laminated plastics selection guide and other literature pertaining to our capabilities for producing materials and parts to your specification. Taylor Fibre Co., Norristown 36, Pa.

Taylor

LAMINATED PLASTICS VULCANIZED FIBRE

For More Facts Write No. 231 on Information Card—Last Page

Program Aids

To assist program chairmen in planning association meetings and company conferences, available film and other program aids will be listed in these columns from time to time.

"Technical Information Services of the AEC"—A 16mm, non-technical film surveys what is available in the unclassified atomic energy literature and tells how it may be obtained. For information on showings of the film write to: Film Library, U. S. Atomic Energy Commission, Washington 25, D. C.

"Air Freight Forwarder Services"—Film produced exclusively for purchasing agents explains the services of air freight forwarders. It is a color, slide film with a viewing time of 10 minutes. For free showing write: Emery Air Freight Corp., 801 Second Ave., New York 17, N. Y.

"Practical System of Investment Analysis"—This film designed for executives providing or reviewing analyses on which investment decisions are based. It is a 35mm, color, slide film and may be purchased with printed script and guide. Write to: Machinery and Allied Products Institute, 1200 Eighteenth Street, N. W., Washington 6, D. C.

"Letter To Youngstown"—Color motion picture on steel making shows many spectacular hot metal scenes. Running time of the sound film is 35 minutes. For information write: W. S. Jacobs, Jr., Youngstown Sheet and Tube Co., Youngstown 1, Ohio.

"Oil Fire Protection"—Characteristics of flammable liquids, how these liquids are handled by the oil industry and how men get fire training experience. It is 16mm, sound and color. Running time: 30 minutes. Write to: Board of Engineers, Standard Oil Co. of California, 225 Bush Street, San Francisco 20, Calif.

**your GAYLORD man is
well-rounded in packaging**

He has a quick, accurate answer to any question on corrugated packaging, from the design to the delivery of your product.

He makes it his business to understand every phase of packaging operations—box-making, printing, filling, closure, handling, shipping . . . the works. This way he makes sure your Gaylord containers perform most effectively and economically

Ask him one question or a dozen; he's as near as your telephone, right now.



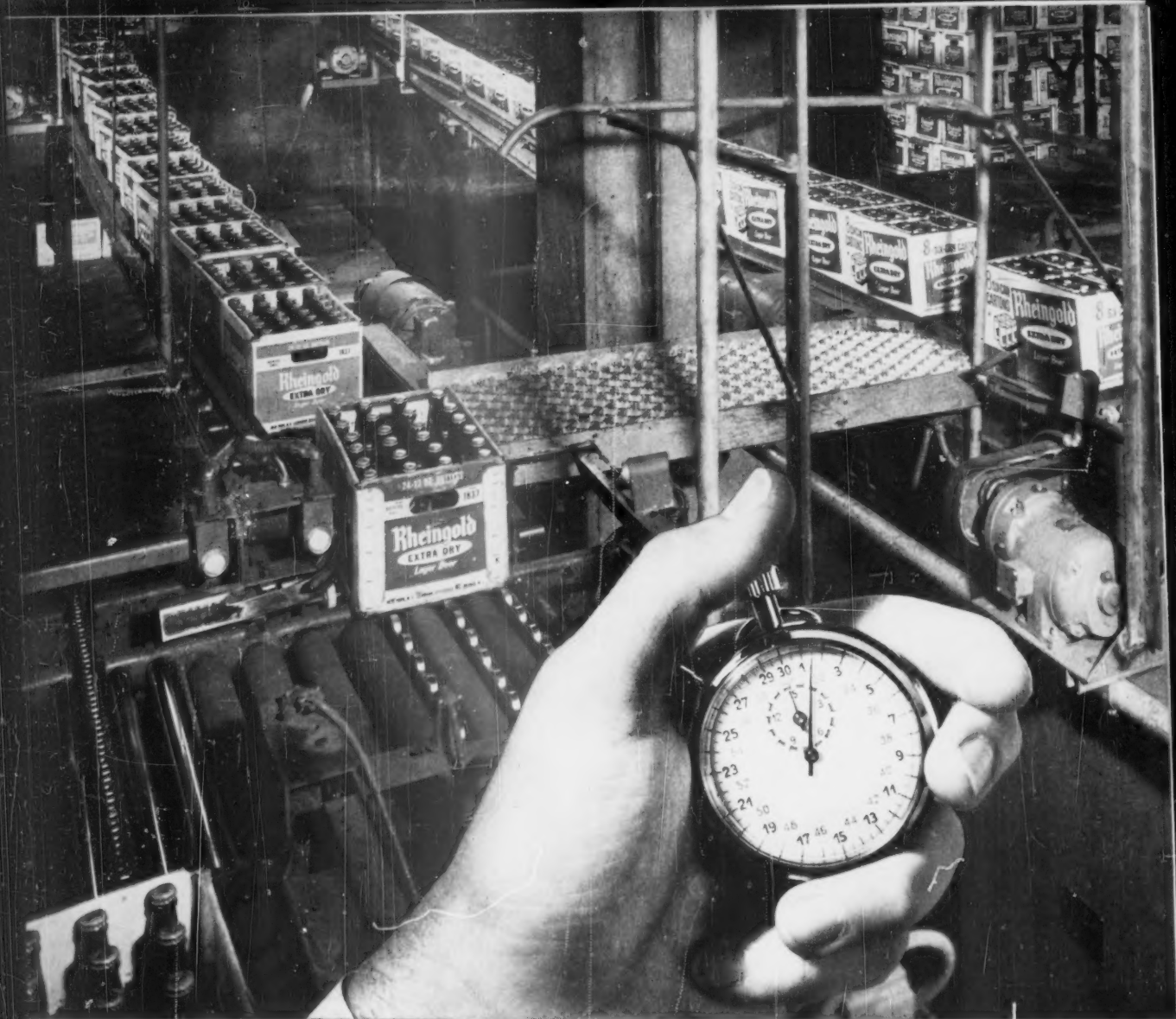
CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION



IN CANADA • CROWN ZELLERBACH
CANADA, LTD. VANCOUVER, B. C.

HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

For More Facts Write No. 232 on Information Card—Last Page



MASTER GEARMOTORS AUTOMATE PALLET LOADING AT 1½ SECONDS PER CASE

This most practical application of Master Gearmotors results in fast, positive handling of beer cases to facilitate automatic pallet loading.

The trick is in the ability of these gearmotors to start and stop action up to 40 times per minute in order to corner and place cases into a pre-set palletizing pattern.

The pallet is loaded, 3 cases at a time, by a fast cycling operation. Magnetic brakes stop action in-

stantly; motors quickly reverse and attain top operating speeds for 3 seconds, stop and reverse again.

The power system for the movement of cases is coordinated for fast delivery from bottling room to palletizing and thence to trucks. Right angle and parallel Master Gearmotors and brakemotors are used throughout . . . perform consistently where continuous duty cycle is a vital factor.

BUILDERS OF THE TOOLS OF AUTOMATION

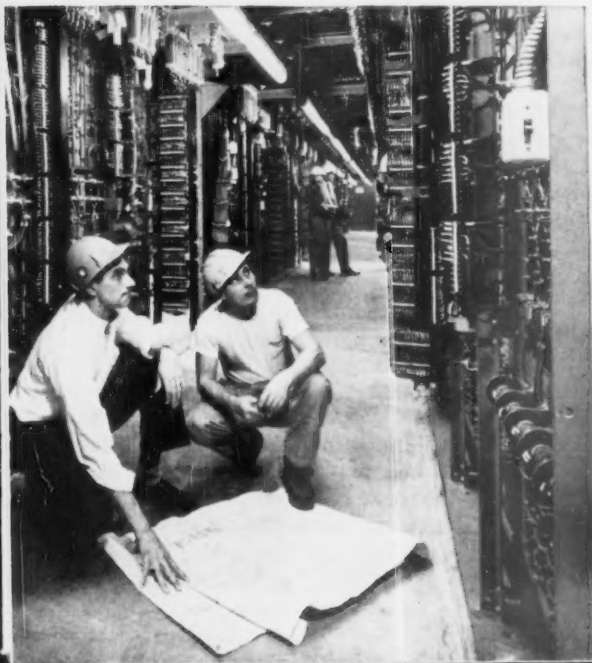
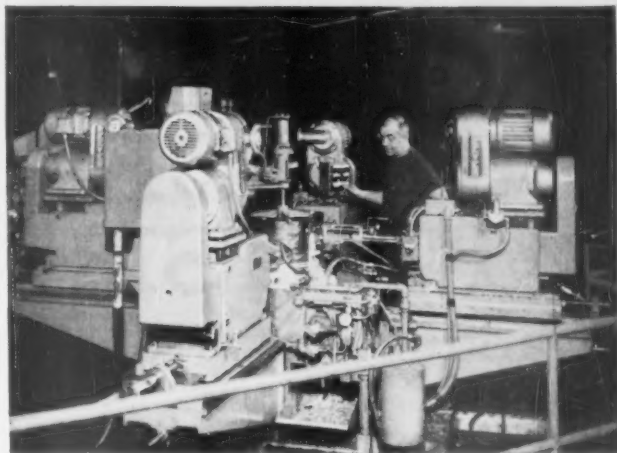
ONE SELF-CONTAINED, COMPACT POWER PACKAGE. This **MASTER GEARMOTOR** has been operating outdoors for 5 years regardless of weather. It has no exposed high speed couplings, no V-belts, chains or sprockets. Engineering and assembly costs are reduced. You can simplify installations and save space with vertical, horizontal and flange mountings; output shaft over, under, left or right. Ratings 1/8 to 125 hp. in right angle, parallel or in combination. Right angle ratios are available up to 96:1; parallel 120:1. Bulletin E-2409.



CONTOUR EPOXY-COATED TO ELIMINATE ENCAPSULATION CRACKING. New **RELIANCE ENCAPSULATED MOTOR** . . . gives you positive protection from dust, dirt, acid and water. Unlike other heavy molded coatings, stator windings are vacuum-impregnated with epoxy resin at a uniform thickness, follow the contour of the windings. You get maximum flexibility, tensile and bond strength, plus quicker cooling . . . all vital to superior motor performance. Bulletin B-2108.



INFINITELY VARIABLE OUTPUT SPEEDS AT LOW COST. **REEVES MOTODRIVES**, shown here powering this 4-position drilling and boring machine, are used extensively for hundreds of production needs. Horsepower ratings from 1/4 to 40, speeds from 1.71 to 4660 rpm. Speed variation ranges from 2:1 to 10:1. Available in hundreds of space-saving assemblies . . . with manual, remote or automatic process control (Airtrol). Bulletin M-592.



TOTAL SERVICE is an integral part of every Reliance product, from engineering and start-up assistance to maintenance and renewal parts. The photo shown here is typical of a Reliance Service Engineer's on-the-job availability—for maintenance and consultation on knotty problems. Every Reliance Sales Engineering Office and Distribution Center—nationwide—gives you the attention and experience necessary to assure the top performance you expect from the Reliance equipment you buy.

RELIANCE **ELECTRIC AND ENGINEERING CO.**

DEPT. 25-12, CLEVELAND 17, OHIO • Canadian Division: Toronto, Ont.

For More Facts Write No. 233 on Information Card—Last Page



Get **Snap-on** **BLACK FINISH** industrial wrenches

Here's one place you can satisfy the front office on price, and the men in the shop on top-quality tools. Get SNAP-ON black finish wrenches. All that's missing is the expensive chrome finish — features like strength; electronically hardened alloy steel; close tolerances of wrench openings; comfortable, rounded handles are all there to give you work speed and long tool life.

Save with Black Finish on all these tools

Wide range of socket wrenches, both power impact and hand type, plus handles and extensions in square drives from 1/4" to 2-1/2" and standard wrench sizes from 3/16" to 5-5/8"; open-end wrenches; long- and short-handle combination wrenches; double offset BOXOCKET® wrenches; sledge and cupped anvil BOXOCKETS; spud and scaffold wrenches, pliers.

You can get full details from your SNAP-ON representative. He is a tool specialist who can give competent advice on selection and use of hand tools.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8019-L 28th AVENUE • KENOSHA, WISCONSIN

For More Facts Write No. 234 on Information Card—Last Page

Industry Developments

For the second time in two years, **Bohn Aluminum & Brass Corporation** is expanding the plant of its **Danville, Ill., Division**. The new facilities will allow for additional space for dockage and warehousing of raw materials. Completion of the plant is expected by the end of the year.

Pennsylvania's Governor David L. Lawrence helped dedicate a new 40-in. blooming mill and a 110-in. wide rolling mill recently completed by the **Alan Wood Steel Company**, Conshohocken, Pa. The new mills, which cost \$36 million, will have the capacity to roll 2½ to 3 million tons of ingots per year.

In addition to increased capacity, the company will now be



Harleston R. Wood, president of Alan Wood Steel Company (r.) and Pennsylvania's Governor David L. Lawrence at the ceremonies marking the dedication of Alan Wood's new 40-in. blooming mill and 110-in. rolling mill in Conshohocken, Pa.

able to produce steel plates up to 96-in. wide. Previously 72-in. plates were the widest that could be turned out.

According to Harleston R. Wood, company president, the product mix will also be altered. Previously, production had been divided equally between steel plates, hot-rolled sheets, and cold-rolled sheets. With the expanded facilities, the product mix will consist of 40% steel plates with the balance equally divided between hot and cold-rolled sheets.

When you buy Timken® bearings you are investing in a better bearing value for today and in the future

TODAY'S automobiles, trucks, farm tractors and machines of all types are much more powerful and dependable, and they are heavier. Yet, the Timken® tapered roller bearings used in modern equipment are smaller and more economical than those used 10 or 25 years ago. That's possible because the Timken Company has found ways to pack more capacity into less space by improving bearing steels, design proportions, developing new ways to achieve precision

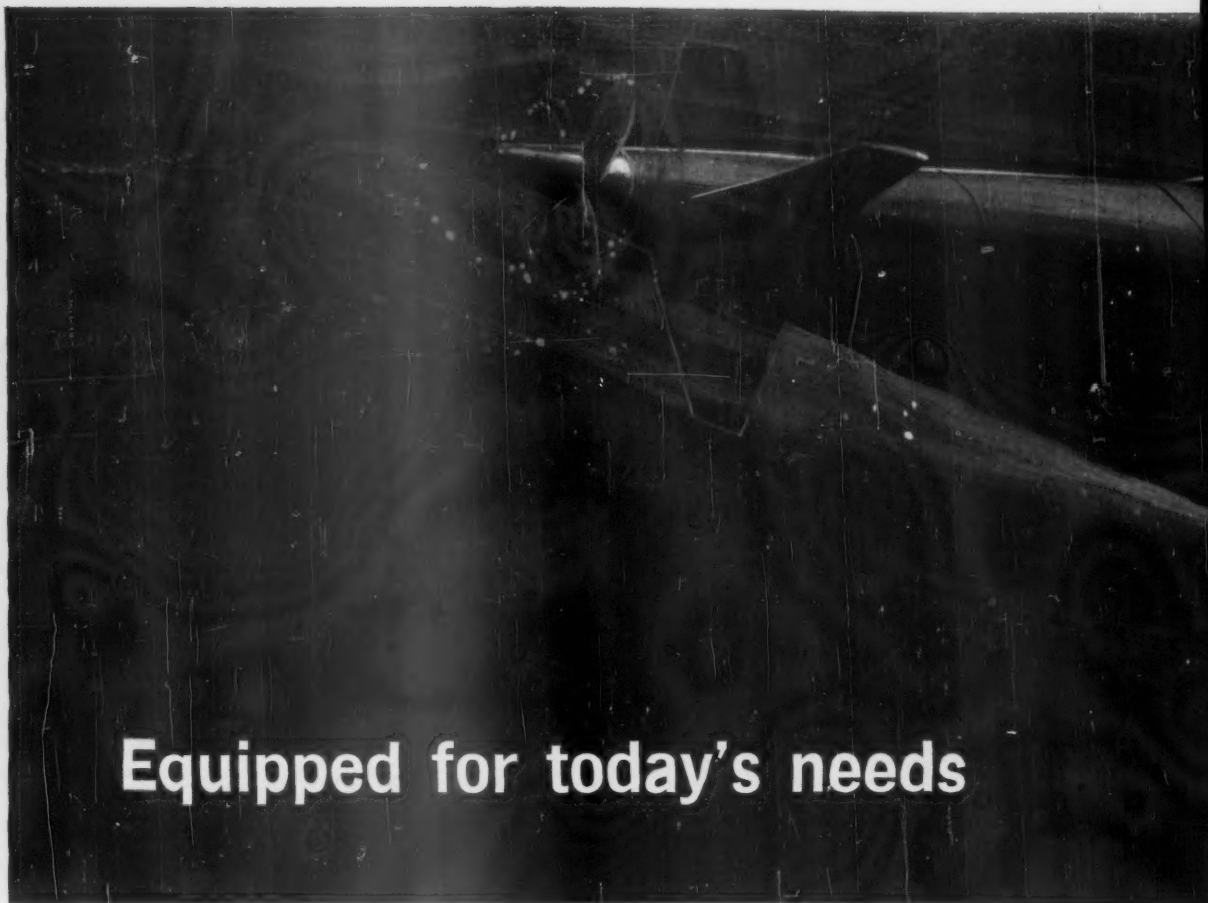
geometry . . . and by investing in bearing life research.

The driving force behind these developments is the Timken Company philosophy of *Service*. Not just institutional service to industry, but the kind of individual, on-the-spot bearing service that Timken Company sales engineers are qualified to give. They are able and eager to give on-the-spot professional assistance to help you build serviceable, reliable, salable machines.

This dynamic partnership with industry has enabled the Timken Company to become the world's largest manufacturer of tapered roller bearings with the enviable reputation of product excellence, pioneering of new applications and bearing industry leadership. It explains in part why Timken bearings are preferred by so many engineers.

An important share of every Timken bearing sales dollar is plowed back into improving research, testing and production facilities. This impatience with just "good enough" is why practically every major tapered roller bearing development has come from The Timken Roller Bearing Company. Invest more of your bearing dollars with the leader—it will repay you in improved products and money-savings—now and in the future.

The Timken Roller Bearing Company • Canton 6, Ohio



Equipped for today's needs

Sheffield is a consistent supplier of steels for many of America's newest submarines and ships.

Now Sheffield is the source for a complete line of heat treated carbon and alloy steels!

New Sheffield Houston installations mark a new era for many industries served from the Southwest.

Today Sheffield is the most *complete* source of heat treated carbon and alloy steels in the Southwest. Recently installed, new 160" heat treating equipment can handle wider and heavier plates which will be rolled in the Sheffield Houston plant's new 160-inch combination slab and plate mill—soon to be finished. This is the only equipment of its kind in the Southwest, and the most flexible anywhere. It is designed for quenching, tempering, normalizing and isothermal annealing carbon and alloy plates.

Heat treated bars to exacting requirements

Also available is the newest in heat treating facilities for bars. It is a precision mechanized and instrumented

operation to maintain close control of time and temperature necessary for uniform physical and mechanical properties. It is capable of oil or water quenching, tempering, normalizing, annealing and stress relieving.

SHEFFIELD
Heat Treated Carbon and Alloy Steels

GRADES

All standard AISI alloy steels and many special steels such as HY-80 (armor plate for Naval application such as in the new nuclear submarines.)

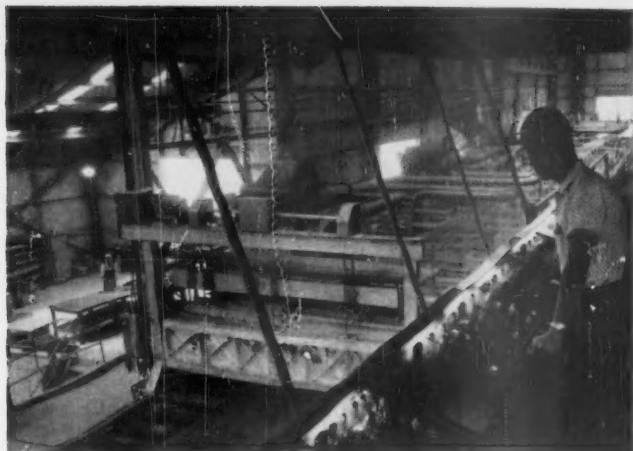
SIZES

Bars, Rounds— $\frac{3}{8}$ " to $8\frac{3}{8}$ " in diameter, 40' in length.
Flats— $1\frac{1}{2}$ " to 8" in width, 40' in length.
Round Cornered Squares—Up to 6" x 6" section.

Plates*— $\frac{3}{16}$ " through 2" thick
Widths to 120 inches
Lengths to 45 feet

*Special Note: After the new 160" plate mill is completed in 1962, Sheffield will be able to furnish plates up to 144" wide and 4" thick.

Strong
Tough
Economical
Efficient
Lasting



Newest wide plate heat treating equipment in the industry. This recent installation is in Sheffield's Houston Plant. It's the most flexible anywhere in the world.

For technical details or assistance write **Sheffield Division**, Armco Steel Corporation, Attention Alloy Sales, P.O. Box 3129, Houston 1, Texas.



ARMCO Sheffield Division

**Add strength . . . subtract weight with
new Sheffield SSS-100!**

This new, quenched and tempered alloy constructional steel offers greater durability under punishing loads . . . plus excellent weldability. Now you can design with lighter components and not sacrifice strength. These qualities make SSS-100 and SSS-100A ideal for bridges, earth-moving machinery, transport equipment, missile ground-support equipment, TV towers—any job that calls for high strength and toughness.

New Sheffield SSS-100

Tensile Strength 115,000 psi minimum
Yield Strength 100,000 psi minimum
Elongation (in 2 inches) 18% minimum
Reduction in Area 50% minimum

SSS-100 may be furnished to requirements of ASTM A-300 at -50°F in firebox or higher quality levels.

ASME Approved

SSS-100 is approved for use in the construction of welded pressure vessels according to the requirements of Section VIII of the ASME Boiler & Pressure Vessel Code (Case No. 1298—Special Ruling).

For More Facts Write No. 236 on Information Card—Last Page

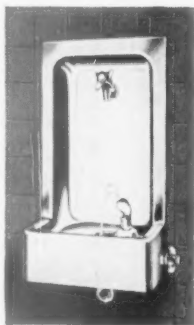


The gleaming beauty of stainless steel provides the modern touch

Stainless Steel, the modern metal of the sixties, is used in this smartly-styled recess fountain by Halsey Taylor.

It is highly favored for installations in foyers, corridors and offices, providing the lifetime beauty and service of stainless steel and the dependability and health-safety of Halsey Taylor design.

The Halsey W. Taylor Co., Warren, Ohio



Here is another Halsey Taylor Stainless Steel wall-type...a semi-recessed unit.



Write for latest catalog, or see Sweet's or the Yellow Pages

THIS MARK OF LEADERSHIP IDENTIFIES THE MOST COMPLETE LINE OF MODERN DRINKING FIXTURES

361

For More Facts Write No. 237 on Information Card—Last Page

Industry Developments

Construction of a new plant at **Berne, Indiana**, to manufacture heavy-gage pressed and coined steel parts was announced recently by **McIntosh Stamping Corporation**. The company produces heavy pressed steel components, chiefly for the automotive and electrical industries.

The new plant, located 33 miles southeast of Fort Wayne, represents an investment of approximately \$250,000 and will increase the company's productive capacity by supplementing its Detroit facilities and operations.

Consolidation of the eastern shipping facilities of **Wilson Jones Co.** in a new \$450,000 addition to the company's plant at **Elizabeth, N. J.** has now been completed. Operations were formerly centered in New York City.

The consolidation will permit direct shipping from the Elizabeth plant to eastern customers, providing improved service to dealers. Substantial operating economies will also be effected by eliminating trucking costs to New York City and labor used in rehandling merchandise.

The company is also constructing sales offices and showrooms in New York City, and will soon open the new facilities at 270 Madison Ave.

Fibrous Glass Products Inc., a subsidiary of **Pall Corporation, Glen Cove, N.Y.**, has almost completed construction of its new glass fiber plant at **Crestwood Industrial Park of Mountaintop (near Wilkes-Barre), Pa.**

The company is a custom manufacturer of thermal, shock and acoustical insulating materials as well as filtration elements, and the new plant will enable it to produce its own basic materials and turn out a wide range of finished products.

Products are already being shipped from the new plant and the glass fiber manufacturing system will go into operation early 1962. The annual capacity is scheduled to be 10 million pounds.

This is the fourth in a series of advertisements Purchasing Magazine is placing in the *Wall Street Journal* and the *Harvard Business Review* to impress top management with the vital profit-making role of modern industrial purchasing. Reprints of the advertisements are available on request. Address orders to Gilbert Victor, Dept. H, Purchasing Magazine, 205 East 42nd St., New York 17, N. Y.

MATERIALS MANAGEMENT

What is it? How important is it?
Whose responsibility should it be?

Industry is becoming increasingly concerned about the cost of materials, the high cost of carrying inventory, and inventory turnover.

Executive management looks at the materials picture . . . finds there is no centralized control . . . and ponders the problem of what to do about the situation.

Materials management is the answer. Simply stated, it is the management of the flow of materials through an organization. It brings together such activities as production planning and control, purchasing, traffic, material and inventory control, stores and materials handling . . . under one common management.

The importance of materials management lies in the fact that half of a company's sales dollar normally goes for materials. A closer rein on this sizable expenditure can produce a handsome return in net profits. In addition, inventories are a typical company's second most important asset — being almost equal to investment in plant and equipment.

Unquestionably, materials management should fit into the organization at

the top policy-making level. The position of materials manager most logically goes to a purchasing man. First, because of his knowledge of materials, markets, prices, manufacturing processes. Second, the PA's pivotal position enables him to bring supplier know-how to manufacturing and engineering.

To help America's purchasing men prepare for this added management responsibility, PURCHASING Magazine includes materials management as a regular part of its balanced editorial diet. Whether you now have a materials manager, or are considering such an appointment, we suggest both you and he will find valuable assistance in our backlog of articles on the subject, as well as those planned for future issues.

PURCHASING MAGAZINE

Sells the man who buys



A Conover-Mast publication
205 E. 42nd St., New York 17, N.Y.



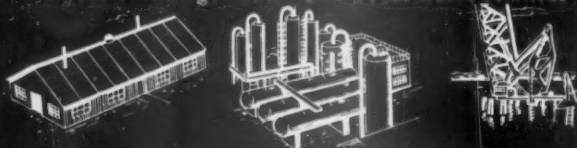
FIBRECOAT

LAYKOLD

Laykold Fibrecoat can cut your metal maintenance costs in half!

At less than \$1* per gallon, an excellent paint for...

METAL BUILDINGS • METAL TANKS • EXPOSED METAL SURFACES



Laykold Fibrecoat, a mineral-armoured asphalt emulsion meets MIL-R-3472 Spec. and has successfully passed the severe Navy Salt Spray Tests. In addition, it effectively extends the life of bituminous roofs. Get all the facts. Call or write our nearest office.

**Available in black, red or green. (Green slightly higher.)*

American Bitumuls & Asphalt Company

320 MARKET ST., SAN FRANCISCO 20, CALIF.
Perth Amboy, N. J.
Baltimore 3, Md.
Cincinnati 38, Ohio

Atlanta 8, Ga.
Mobile, Ala.
St. Louis 17, Mo.
Tucson, Ariz.

Portland 8, Ore.
Oakland 1, Calif.
Inglewood, Calif.
San Juan 23, P. R.

BITUMULS® Emulsified Asphalts • **CHEVRON®** Paving Asphalts • **LAYKOLD®** Asphalt Specialties • **PETROLASTIC®** Industrial Asphalts
For More Facts Write No. 238 on Information Card—Last Page



COES KNIFE CO.

Your source of:
MACHINE KNIVES

Standard and special blades of solid or composite steel, for all machine knife applications.



**COES
MICRO
GROUND**

MACHINE WAYS

Hardened-and-ground steel ways, guides, and wear plates in sizes and shapes to meet your specifications.

COES KNIFE COMPANY
70 COES ST., WORCESTER, MASS.

For More Facts Write No. 239 on Information Card—Last Page

Industry Developments

In November, **Fort Worth Steel & Machinery Company** will move its Eastern office and warehouse to a new building at **590 Belleville Turnpike in Kearny, N. J.**

The move will provide improved warehousing facilities and capacity, as well as more advantageous location for better service to industrial distributors and users throughout the region.



Vulcan-Associated Container Companies Inc. recently announced that construction has started on a new plant for **Vulcan Containers Inc. of Bellwood, Ill.**

The site is in **Vulcan Industrial Park**, located near the present plant. Production operations will be moved and set up by division so that there will be no interruption in Vulcan's production or service to its customers.

The company states that the building program is specifically planned to meet the changing needs in steel packaging materials, design and delivery.

Erie Strayer Company, with headquarters in Erie, Pennsylvania, has opened new Western Manufacturing and Sales Offices at **650 Fifth Street, San Francisco 7, Calif.**, according to a recent announcement.

The company has also developed manufacturing sources for some of its equipment in the West that will result in faster delivery and greater freight savings for users of their equipment. Western Machinery Company, at their Sacramento plant, is one of these sources which will produce to specification part of Erie Strayer's mobile and stationary batching and central mix concrete plants and materials handling equipment.

WHAT MAKES A GOOD DIRECTORY?



Accuracy

CONOVER-MAST PURCHASING DIRECTORY, with its constant check of telephone numbers, is brought continually up to date. If a manufacturer moves or goes out of business the telephone companies are the first to know. (CMPD is the only major industrial directory that includes telephone numbers.)

Completeness

In CMPD secondary product headings are cross indexed to the one *complete* heading. There are no misleading, incomplete minor headings.

Convenience

CMPD lists all industrial products, but only industrial products. It is complete in one volume to conveniently serve the industrial buyer.

Size ratings

In CMPD (and *only* CMPD among major industrial directories) size is shown by employment—a current and meaningful gauge.

Conover-Mast Purchasing Directory

205 E. 42nd St. New York 17, N. Y.
MU 9-3250

What do washroom towels cost your company?

Combining high-quality towels and controlled dispensing, Turn-Towls cut costs wherever they're in service. Here are typical savings:

For a North Carolina manufacturer, annual towel costs dropped from \$480.00 to \$196.00 after Turn-Towls were put to work.

A New Jersey firm reduced per employee towel costs from \$2.52 to \$1.94

by switching to Turn-Towls.

Controlled Turn-Towl service provides still more savings through easier dispenser maintenance. The exclusive new polished aluminum cabinet won't rust, chip, wear out. (Leased free for use with Mosinee Turn-Towls.)

For free Turn-Towl Test Kit, consumer reports on how other companies save with Turn-Towls, write Dept. 1100.



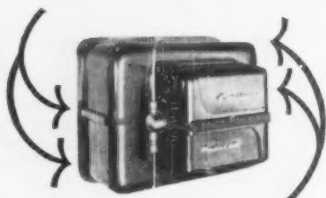
Turn-Towls serve
hundreds of firms for
less than \$3.00
per employee per year

MOSINEE
Sulphate Towels

BAY WEST PAPER CO.
GREEN BAY • WISCONSIN
Subsidiary of Mosinee Paper Mills Co.

For More Facts Write No. 240 on Information Card—Last Page

Humidifier housing



Custom molded by CMPC

APPLICATION: Rust, corrosion and temperature resistant housing for automatic residential humidifier. Phenolic molded by CMPC.

ADVANTAGES: While developing the concept of a superior new high-capacity humidifier—the Aprilaire®—Research Products Corporation engineers consulted CMPC. The result is this compact, lifetime unit with motor housing, drain pan and distributing pan molded as integral parts of the main housing. In addition to providing the durability needed, this CMPC-molded housing helps give the unit quieter operation... permits greater accessibility for inspection... and affords the Aprilaire a neater, trimmer appearance. Specify CMPC... custom molders for over 40 years.

CMPC CHICAGO MOLDED PRODUCTS CORPORATION
1020-J N. KOLMAR AVE. CHICAGO 51, ILLINOIS

FREE REPRINTS AVAILABLE

Reprints of the section of **PURCHASING Magazine's** January 2, 1961 issue on, "Purchasing: The Problems and the Promise," are now available on request. Covered by articles in the reprint are such subjects as: "Management's Responsibility to Purchasing," "Purchasing's Responsibility to Management," "The Never-Ending Quest for Value," "Purchasing and Sales: Is there a Conflict?," "What Traffic Means to Purchasing," "Are You at a Career Crossroad?," "Purchasing and the Law."

Copies of the reprint may be obtained without charge by writing: Reprint Dept., Purchasing Magazine, 205 East 42nd St., New York 17, N.Y.

Important Decisions In Purchasing Law

(Continued from page 88)

tory, fixed prices, cooperated to protect each others' markets, and participated in cartels to restrict imports to and exports from the United States.

Supreme Court Concurs

The federal district court had characterized these companies in this manner. "The relationship effected and maintained was not that which prevails between a manufacturer and its exclusive foreign agents for the distribution of its product. Each company was a manufacturer and distributor, independent of the others, but joined for the sole use and only purpose of mutual benefit."

When the Supreme Court upheld the government contention that the combination violated the Sherman Antitrust Act, one of the justices dissented. He said:

"The court applies the well established conspiracy doctrine that what it would not be illegal for Timken to do alone may be illegal as a conspiracy when done by two legally separate persons."

"The doctrine now applied to foreign commerce is that foreign subsidiaries organized by an American corporation are 'separate persons' and any arrangement between them and the parent corporation to do that which is legal for the parent alone, is an unlawful conspiracy. I think that result places too much weight on labels."

Role of Subsidiary Corps.

He then commented: "The philosophy of the government, adopted by the court, is that Timken's conduct is conspiracy to restrain trade solely because the venture made use of subsidiaries. It is forbidden thus to deal with and utilize subsidiaries to exploit foreign territories because parent and subsidiary corporations must accept the consequences of maintaining corporate entities and that consequence is conspiracy to restrain trade."

"But not all agreements are conspiracies and not all restraints

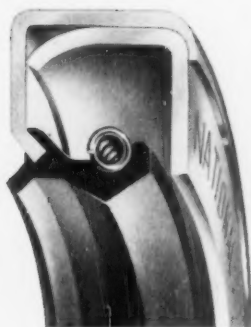
(Please turn to page 142)

NATIONAL BUD* OIL SEALS

OVER 3,500 DIFFERENT SIZES IN PRODUCTION

BUD (Bonded Universal Design) Oil Seals
 field-proved in over 20 million cars, trucks and buses.
 Economical, ready when you need them.

National has complete tooling to provide you with a broad range of dependable BUD® seals covering virtually 100 shaft sizes for standard applications.

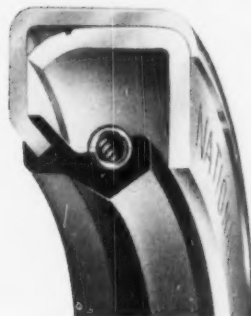


National 410,000

In National BUD seals, the lip is permanently bonded to the metal casing. This means less rubber needed, less frictional heat at contact points, longer life, less space required in applications. Bonded design eliminates internal leakage, and BUD seals are phosphate coated to avoid rust. With these features plus superior concentricity and rugged, simple design, BUD seals have proved outstanding in many millions of hours of widely varied field usage.



National 470,000



National 450,000

Available with single or dual lips; in single case design for standard precision shaft sealing, or double case design for heavy duty use of severe press fit. Sealing materials are available for temperatures from -80°F to $+400^{\circ}\text{F}$, to operate in most oils or industrial fluids.

The bonded design was pioneered at National Seal—industry's oil seal headquarters for 40 years. If yours is a standard application, your National Seal field engineer has the proper BUD seal for prompt delivery; if yours is a special design his experience can help you cut sealing costs. He's listed in the Yellow Pages, under "Oil Seals."



National 480,000

Now National catalog lists BUD seals.

Write for your copy today.



NATIONAL SEAL



Division, Federal-Mogul-Bower Bearings, Inc.

General Offices: Redwood City, California

Plants: Van Wert, Ohio; Downey and Redwood City, California



*BUD (Bonded Universal Design)

For More Facts Write No. 241 on Information Card—Last Page

No. 12 in a series of washroom survey comments from "SBS soap counselors"



We showed them how to remove tough soils the easy way!



Waring G. Houston

SBS Soap Counselor, reports how he aided a rubber manufacturing plant in solving a specific soil problem:

"This company has always had a tough time keeping its washrooms clean because of the presence of rubber dust, latex, cements, special inks and other hard-to-remove soils. Maintenance men resorted to special-purpose cleaners to cope with the problem. In a short time, the cost of labor and cleaning materials went sky high!

"We pointed out, of course, how much easier they could do the total cleaning job with SBS-50 Cleaner-Disinfectant-Sanitizer-Deodorant. We demonstrated SBS-50's effectiveness against every tough soil found in their washrooms. They were amazed to find out how easily they could end the costly duplication of manpower and materials!"



Money-saving suggestions like this begin with OPERATION PINPOINT—a thought-provoking presentation filled with facts about skin hygiene and washroom maintenance. The SBS soap counselor serving your area can pinpoint the right soap to do every skin cleansing job best and at lowest cost in your plant. Let him show you OPERATION PINPOINT . . . just call your nearest SBS office, collect.

the washword of industry

sugar beet products co.

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Important Decisions In Purchasing Law

(Continued from page 140)

of trade are unlawful. In a world of tariffs, trade barriers, empire or domestic preferences, the various forms of parochialism from which we are by no means free, I think a rule that it is a restraint of trade to enter into a foreign market through a separate subsidiary of limited scope, is virtually to foreclose foreign commerce of many kinds." ► END

Court Upholds Govt. Claim

Nevertheless in the prevailing opinion, the court sustained the charges of antitrust violations made by the government. It held: "We cannot accept the 'joint venture' contention. That the trade restraints were merely identical to an otherwise legitimate 'joint venture' is, to say the least doubtful.

"The dominant purpose of the restrictive agreements into which this company, British Timken, and French Timken entered, was to avoid all competition, either among themselves or with others. The fact that there is a common ownership or control of the contracting corporations does not liberate them from the impact of the antitrust laws. Nor do we find any support in reason or authority for the proposition that agreements between legally separate persons and companies to suppress competition among themselves and others, can be justified by labeling the project a 'joint venture.'"

Timken Co. v. U. S., 341 U.S. 593



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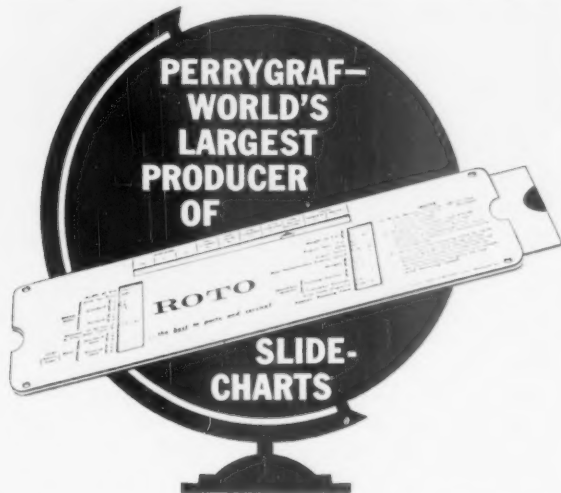
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How to Write a Better Report

(Continued from page 79)

3. Detailed back-up: This is the meat of your report. In it present all the details to support your summary and recommendations. How much information should be included naturally depends upon the subject, but specific data should be given.

Charts, graphs, or statistical tables may make your report more easily understood. Photographs can be very helpful.

Watch your language. Keep it clear and to the point. There is no need to use an elaborate, pedantic style. Relate your language to the interests and background of the men for whom it is written.

Good usage and choice of words are important. A report can be terribly dull if there is no variety in sentence structure, no color in vocabulary, too many clichés or too banal a style of writing. But don't get carried away with yourself. Give the facts as you see them. And avoid the stilted "corporationese" that clutters up so many reports.

How long should a report be? Long enough to tell the whole story—and not one word longer. Avoid repetition. A common fault in report writing is stating the same idea over and over again in different words.

When putting the report in final form for presentation, make it as attractive and easy-to-read as possible.

The first page should carry only the title:
"STUDY OF XYZ EQUIPMENT"

Submitted by
ROBERT MARSHALL,
Purchasing Manager.

The second page should give the objective, purpose and authority for the study.

On the third (and if necessary, following pages) present your summary and recommendations.

After this comes the remainder of the report, including graphs, charts, tables, pictures, and any other illustrative material. Some people prefer to put some of this in an appendix. This, however, is usually easier to use when it's included in the body of the report. The reader won't have to turn back constantly to an appendix as he reads.

Once your final report is submitted, you are still not finished. You may have to discuss it orally with your boss, company committees or others. You must be prepared to answer questions on all phases of your report. Often they may be on facts you didn't cover fully in the report. This need not embarrass you as no one can possibly anticipate every question. You can refer to your original data or tell the questioner you will have to obtain the information for him.

Attention to the fine points of obtaining and presenting information and ideas in a written report will pay off. Not only will you be doing a better job in serving your company, but you will be more respected by your superiors and will be recognized by all as a man who can express and communicate his ideas.

► END



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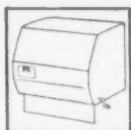
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For More Facts Write No. 247 on Information Card—Last Page

Employment Service

Buyer

Appliance manufacturer requires buyer with management potential. College degree desirable, preferably engineering. Background should include procurement of electrical components. Send complete resume stating salary requirement. Location — central Michigan. Write Box 519.

Experience: 20 years multi-plant purchasing capital, commodity, maintenance materials, for chemicals, plastics, textile concerns. Ability to negotiate contracts. Capable organizer. Directed and trained medium sized staff. Knowledge inventory control and production planning.

Education: High School, 3 yrs College —special courses.

Will relocate. Prefer Eastern seaboard. Write: Box 150

Experience: 10 years purchasing as purchasing agent, buyer, expeditor, also production control as a schedule and follow up man. Automotive experience and educational materials most recently. Purchased raw materials, packaging, materials handling equipment, steel, lumber, mill supplies. Trained in cost reduction, value analysis, ready for a challenge.

Education: 2 yrs college leading to a degree in Bus. Admin. Age 32.

Will relocate.
Write: Box 153

Experience: 25 years in purchasing ferrous and non-ferrous sheet, strip, bars, tube, extrusions etc., die castings, forgings, stampings, foundry materials, packaging, machinery and equipment and plant supplies. Supervised purchases of over \$12 million worth of materials per year in two plant operation. Had charge of material control department and scrap disposal. Member N.A.P.A. Age 48.

Education: High School Graduate.
Will relocate.
Write: Box 156

Experience: Purchasing agent and head of dept. of 30 with better than 20 yrs. experience in major industrial, public utility and gov't. work. Wide diversification of materials. Successful and effective application of ADP and value analysis. Member of NAPA; background in law and finance.

Education: New York Univ., Economics major.
Will relocate.
Write: Box 147

STATIONERY-OFFICE EQUIPMENT PURCHASING AGENT

Large, multi-plant industrial organization requires purchasing agent with experience in buying for entire corporation all its printing, stationery, catalogs, office equipment and supplies. Should have similar experience with large corporation. Will be responsible for purchases exceeding \$1 million per year. New plant, location lower Westchester County. Please send detailed resume, including salary requirements, to Box 518.

Experience: 30 years in purchasing & other phases of material handling, including material control & production planning, scheduling & shipping. Last 16 yrs as P.A. Age 51, thoroughly experienced defense industry—ASPR's & AFPI's. Prefer connection company having substantial percentage of non-defense business.

Education: Certificates, evening courses, purchasing, production control, scheduling, planning, manufacturing processes.

Prefer Metropolitan L.I. area.
Write: Box 151

Experience: 5 yrs. U.S. Air Force, 5 yrs. ass. proj. eng. State hi-way, 11 yrs. one co. as follows: 6 yrs. supt. of production; 2 yrs. material & production control; 3 yrs. purchasing agent.

Education: High School; 2½ yrs. college—trades & industrial eng.
Will relocate.
Write: Box 158

HOW TO APPLY

There is no charge for this service, which is available both to purchasing personnel seeking employment and to employers requiring replacement or additions to their purchasing depts. Please specify the form you want—employer or applicant. Address all correspondence (requests for forms, and answers to advertisements) to Box No., Employment Service, Purchasing Magazine, 205 East 42nd St., New York 17.

Experience: Broad experience in production, purchasing and sales, including production-inventory-quality controls, industrial engineering, tool design, warehousing, vendor relations and value analysis. Currently with large multi-plant company; responsible for \$16 million annual purchases. Establish policy, work closely with engineering, finance, sales and management. Résumé available on request.

Education: B.S. Commerce, Drexel Institute of Technology. Graduate, Executive Program, School of Business UCLA.

Will relocate.
Write: Box 154

Experience: 10 years as buyer of production packaging, MRO & capital eqpt. mat. for major multi-plant of processing & packaged products. Responsibility includes areas in inventory control, cost reduction, expediting, reports to management, traffic, quality control, etc. Trained to establish, plan, organize, analyze, & implement modern purchasing techniques in a large operation. Desire challenging P.A. position with future opportunities.

Education: BS industrial management, M.B.A. Bus. Admin., mechanical & engineering courses.

Will relocate.
Write: Box 149

Experience: 30 years (all phases of industrial purchasing in capacities ranging from buyer to asst. director of purchases). 23 with government contractors of aircraft engines, accessories and navy navigational and fire control instruments. Also qualified in production control, sub-contracting, experimental procurement and cost reduction procedures using value analysis, standardization and inventory control, presently employed but seek more responsibility and opportunity. Age 51, minimum salary \$12,000 per year.

Education: Mechanical Engineer—Stevens.

Will relocate.
Write: Box 152

Experience: 14 years purchasing for multi-plant production, industrial and chemical plant construction. Diversified knowledge of commodities, purchasing procedures, value analysis, make or buy. Contract and sub-contract negotiations. Have operated on management level. Immediate supervision of purchasing dept. consisting of 14 people including expediting and traffic dept. Age 35.

Education: 4 yrs., industrial engineering (evenings), New York Univ. plus courses in purchasing and mgmt. at American Arbitration Assoc., Div. N. Y. U.

Metropolitan New York, Queens or Long Island.
Write: Box 148



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shouldn't
buy steel
from us**

(They should buy from a steel service center.)

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When they buy steel from a mill and keep it in inventory, they also buy all the "costs of possession" that go along with that inventory. Cost of capital. Of storage space . . . insurance . . . handling. Of accounting . . . scrap . . . taxes . . . obsolescence.

But when they use the large stocks of their service center as their own, they reduce or eliminate those "costs of possession." And those savings can more than offset the few cents more they pay for service-center steel.

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Allegheny Ludlum Steel Corp.	94, 95
Allegheny Ludlum Steel Corp., Carmet Division	41
Almetal Screw Products Co., Inc.	117
American Bitumuls & Asphalt Co.	138
American Hard Rubber Company	60
American Oil Company	28
American Saw & Mfg. Co.	2nd Cover
American Telephone & Telegraph Co., Business Equipment Sales	109
Armour Alliance Corporation, Coated Abrasive Division	90, 91

B	
Babcock & Wilcox Co., Tubular Prod. Div.	2
Bassick Co., The	89
Bay State Abrasives Products Co.	118, 119
Bay West Paper Co.	140
Becco Chemical Division of F.M. & C. Co.	22
Behr Manning Co.	4th Cover
Bethlehem Steel Co.	147
Brown, L. L., Paper Co.	108
Bundy Tubing Company	55

C	
Cambridge Wire Cloth Company	50
Capewell Manufacturing Co., The	3rd Cover
Carborundum Company, The, Electro Minerals Division	36
Champion Papers, Incorporated	33, 34
Chicago Molded Products Corporation	101, 140
Chicago Rawhide Mfg. Co.	61
Cincinnati Milling Machine Co.	18
Coe Knife Company	138
Colorado Fuel and Iron Corp., The, Eastern Div.	143
Columbia-Geneva Steel Division	122, 123
Conover-Mast Purchasing Directory ..	139
Copperweld Steel Co., Ohio Seamless Tube Division	43
Corning Glass Works	37
Crane Co.	45
Crucible Steel Co. of America	6

D	
Delta File Works, Inc.	42
Denver Chicago Trucking Co.	53
Dow Chemical Company, The, (Chemicals Bus. Mgr.)	165
Dow Chemical Company, Inc., (Dow Metal Products)	62

E	
Elastic Stop Nut Corp. of America ..	16
Emery Air Freight Corp.	4
Enjay Chemical Company, A Division of Humble Oil & Refining Co.	3
Erle Bolt & Nut Co.	104
Exide Industrial Division, The Electric Storage Battery Co.	102

F	
Fafnir Bearings Co.	115, 116
Faultless Caster Corporation	59
Federal Mogul Division, Federal- Mogul Bower Bearings, Inc.	66
Fuller Company	93

G	
Gaylord Container Division of Crown Zellerbach Corporation	129
General Electric Co., Direct Current Motor & Generator Department	14
Graphic Controls Corp.	117

H	
Hammermill Paper Company	107
H & H Tube & Mfg. Company	144
Hinde & Dauch Division, West Virginia Pulp & Paper Co.	126, 127
Hoover Ball & Bearing Co.	47
Hyatt Bearing Division, General Motors Corp.	20, 21

I	
International Paper Co., Packaging Division	51
Interstate Motor Freight System	26

J	
Jones & Laughlin Steel Corporation, Sheet Mill Products Div.	38, 39

M	
Minnesota Mining & Manufacturing Co. (Adhesives, Coatings & Sealers) ..	125

N	
National Cash Register Co. (NCR Paper)	111
National Lead Company, Doehler- Jarvis Division	113
National Seal Division	141
National Supply Division, Armco Steel Corporation	44
New Departure Div. of General Motors	8
Norton Co.	4th Cover

O	
Ohio Seamless Tube Division of Copperweld Steel Co.	43
Olin Mathieson Chemical Corporation, Chemical Div.	35
Osborn Mfg. Co.	96
Owens Illinois Glass Company	24

P	
Peerless Steel Equipment Co.	110
Perrygraf Corp.	143
Peterson Steels, Inc.	63
Pioneer Rubber Company	100, 101
Purchasing Magazine	137

Q	
Quinace Electric & Engineering Company	130, 131
Ridge Tool Company, The	103
Riegel Paper Corporation	46
Riverside Alloy Metal Division, H. K. Porter Company, Inc.	120, 121
Robbins & Myers, Inc.	68
Roberts, C. A., Co.	25
Rollway Bearing Company	97
Russell, Burdall & Ward Bolt & Nut Company	54
Ryerson, Joseph T., & Son, Inc.	12

S	
Schrader's A. Son	10
Sheffield Division, Armco Steel Corporation	134, 135
SKF Industries, Inc.	1
Snap-on Tools, Corp.	132
Stackpole Carbon Co., Electronic Components Division	64
Steiner Company	145
Sugar Beet Products Company	142
Sun Oil Company	56, 57
Sun Shipbuilding & Dry Dock Company	143

T	
Taylor Fibre Co.	128
Taylor, Halsey W., Co., The	136
Tennessee Coal & Iron Div.	122, 123
Timken Roller Bearing Co., Industrial Div.	133
Trent Tube Company	6

U	
Udylite Corp.	30, 31
U. S. Graphite Co.	98, 99
United States Steel Corporation (UCO)	122, 123
United States Steel Export Co.	122, 123

V	
Vascoloy Ramet Corporation	48
Victor Manufacturing & Gasket Co., ..	58
Vogt, Henry, Machine Co.	49

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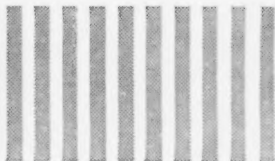
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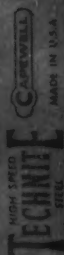
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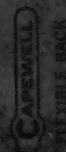
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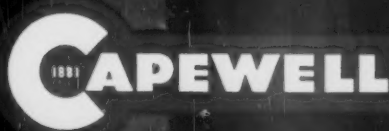
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